THE COTTON GIN AND OIL MILL

PRESS

FORMERLY THE COTTON AND COTTON OIL PRESS

DECEMBER 23, 1950

51st YEAR

THE MAGAZINE OF THE COTTON GINNING AND OILSEED PROCESSING INDUSTRIES

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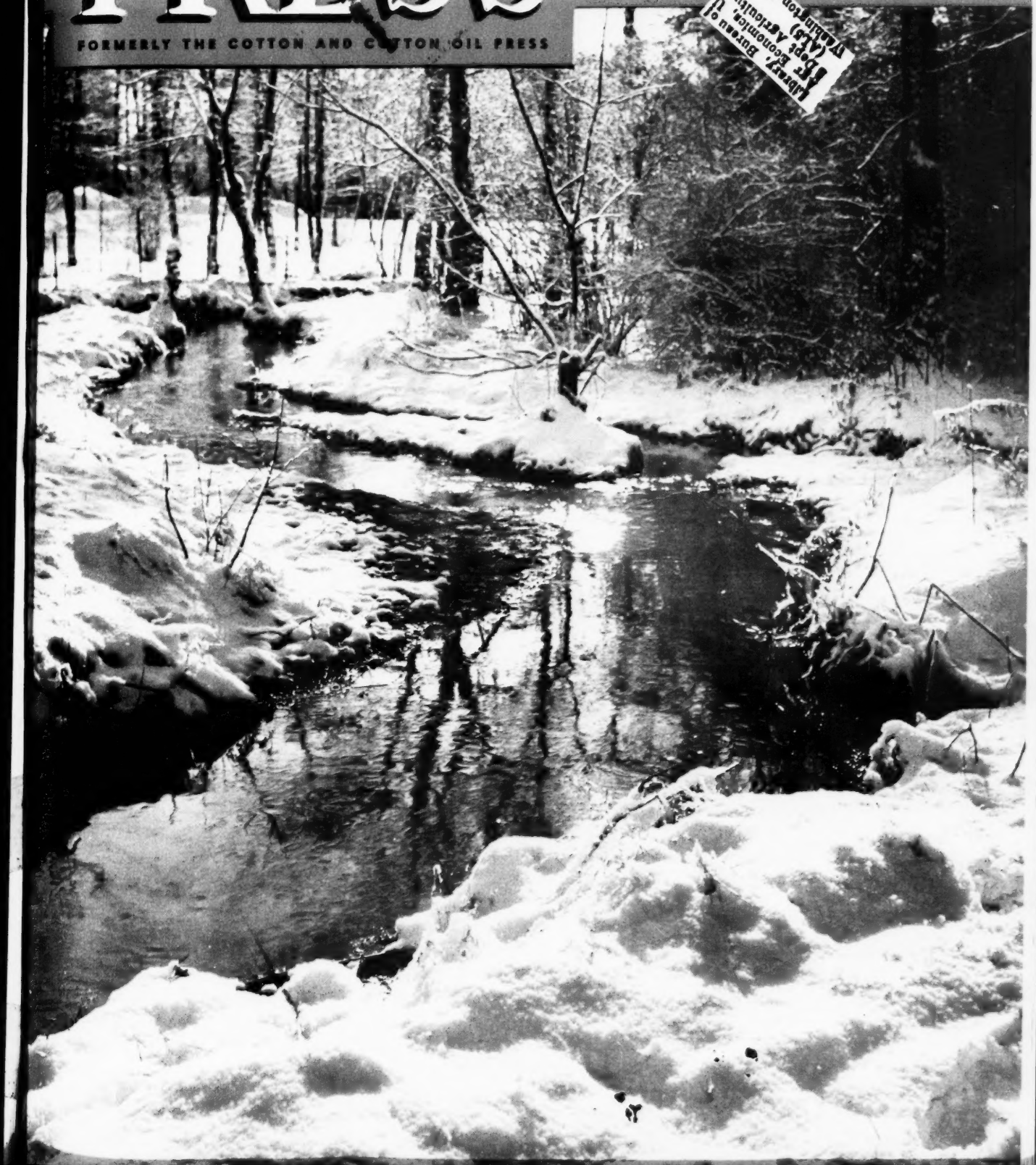

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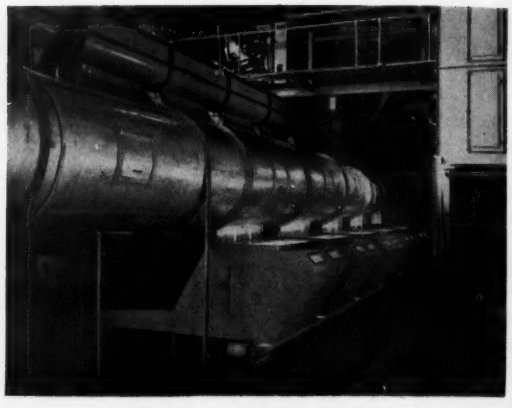

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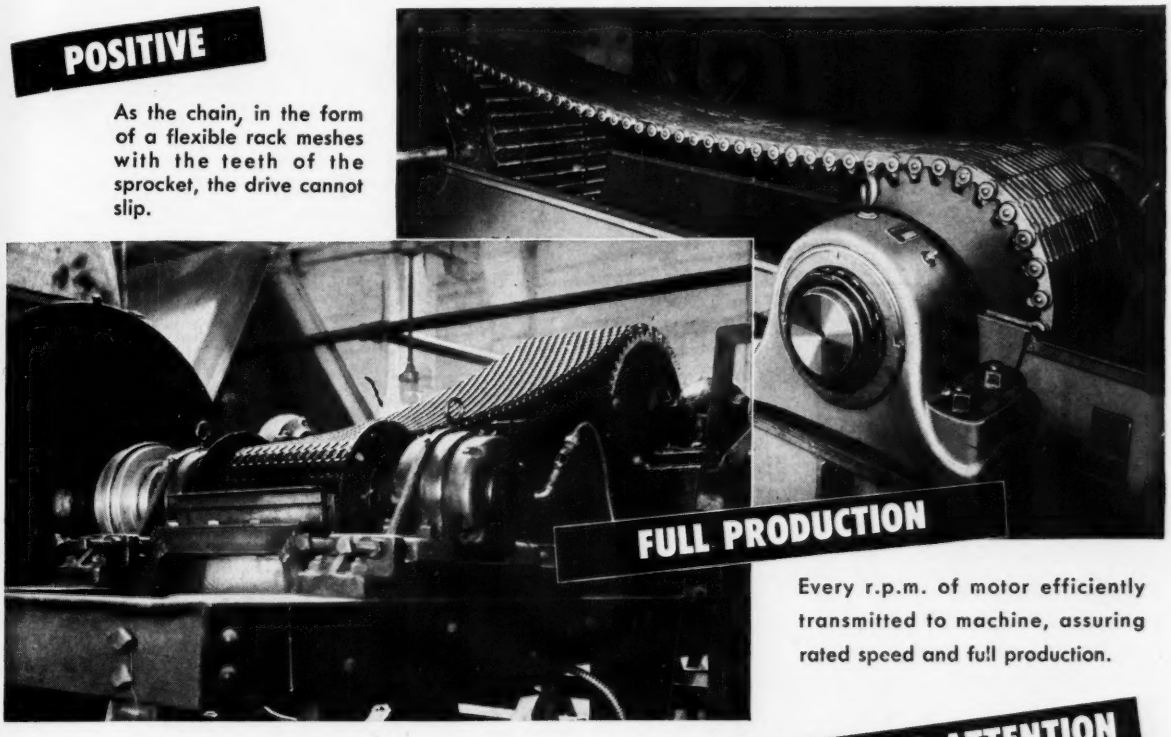

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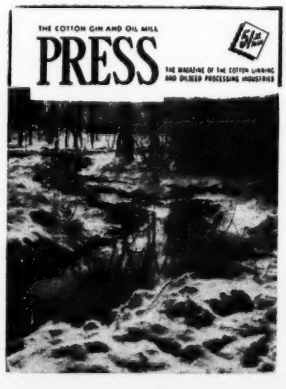
The Cover



■ SCENES like the one pictured on the cover are not found too frequently in the Cotton Belt, and perhaps their rarity adds to their charm. To our readers who have recently been struggling through record blizzards, this comforting thought: the snow in the picture seems to be melting. Photograph by A. Devaney.

READ BY COTTON GINNERS, COTTONSEED CRUSHERS AND OTHER OILSEED PROCESSORS FROM CALIFORNIA TO THE CAROLINAS

Appearances ARE OFTEN DECEIVING

SINKERS PROCESSED
COTTONSEED

GAS OR DRY PROCESSED
COTTONSEED

Especially IN DELINTED COTTONSEED

SINKERS PROCESSED COTTONSEED
AFTER RUB TEST

GAS OR DRY PROCESSED COTTONSEED
AFTER RUB TEST

• MAKE THIS RUB TEST YOURSELF BEFORE BUYING •

Rub a small handful of delinted seeds firmly between the palms of your hands. Be sure to notice that SINKERS COTTONSEED NEVER BREAKS UP.

THE SINKERS PROCESS...

is the only method whereby cottonseed can be perfectly delinted, graded and treated, without damage to the seed.

CAUTION...

Any breaking up of the seed indicates that the seed has been burned and charred —THIS MEANS TROUBLE.

REMEMBER—The seed coat protects the germ-life and permits absorption of the exact amount of moisture needed for germination under growing conditions.

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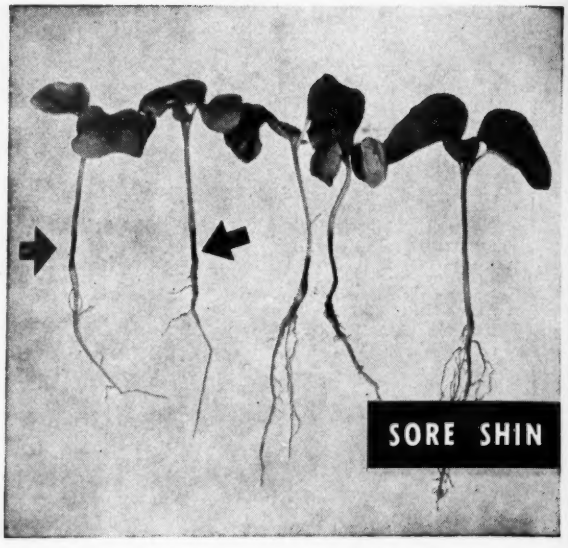

You Can Help Prevent

SEED ROT AND SORE SHIN

Seed rot and sore shin (damping-off) have again become troublesome to cotton growers in recent years. Yet *careful* seed treatment with "Ceresan" seed disinfectant protects both the seeds and seedling plants from these diseases. "Ceresan" also heads off other diseases, including seed-borne anthracnose and angular leaf spot.

Year in and year out, growers get up to 40% better yields from seed adequately treated with "Ceresan" at the rates shown in the chart at the right. Higher yields come as a direct result of good disease control and good stands.

You help the growers and yourself when you make sure that your own operators apply the right amount of "Ceresan" to the seed treated in your equipment. Improper treatment may give as poor results as no treatment at all. On even the best seed, "Ceresan" treatment almost always pays well.

For full details *on effective seed treating, ask for Du Pont's free handbook "How to Treat" (A-7585). For your copy, write to Du Pont, Semesan Section, Wilmington 98, Delaware.*

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MECHANICALLY DELINTED COTTONSEED

2% "Ceresan"	Dry	6 oz./100 lbs.
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2% "Ceresan"	Dry	4 oz./100 lbs.
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2% "Ceresan"	Dry	9 oz./100 lbs.
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• With all chemicals always follow directions for application. Where warning statements on use of product are given, read them carefully.

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More and more oil millers are coming to the conclusion that the Exsolex multiple purpose extraction system is the answer to today's fluctuating market conditions. Combining Expellers* with solvent extraction, yet vastly different from prepressing, Exsolex is establishing new records for low residual oil meal content while producing the best quality oil and meal. You may be able to use your present equipment in an Exsolex installation. Write asking about the possibilities today.

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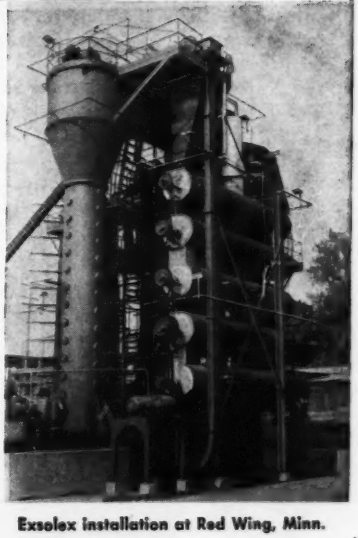

Exsolex installation at Red Wing, Minn.

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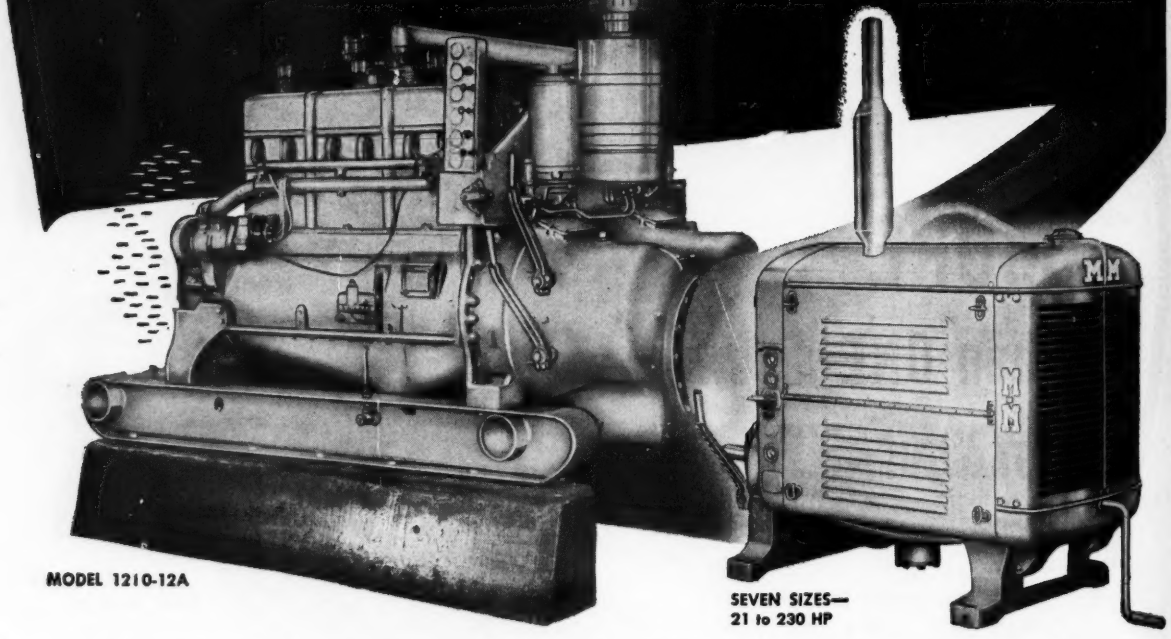

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MM power offers *important savings* on gin installations and operation. Built-in gear reduction provides proper speed for direct drive to gin shaft that saves power and fuel and eliminates buying of counter shafts, bearings, idlers, pulleys and belts. Front power take-off is available for direct drive to provide opposite rotation or auxiliary drive. Auxiliary water pumps are supplied for cooling tower operation. Cooling towers are easily built at low cost of standard material that can be bought locally. Layout drawings and bill of material are furnished when required. Natural gas or LP gas fuel systems, engineered for best power and economy, are optional.

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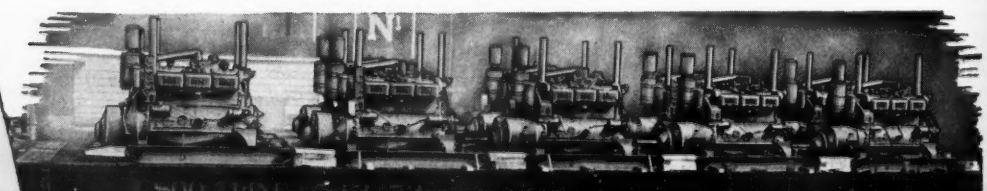

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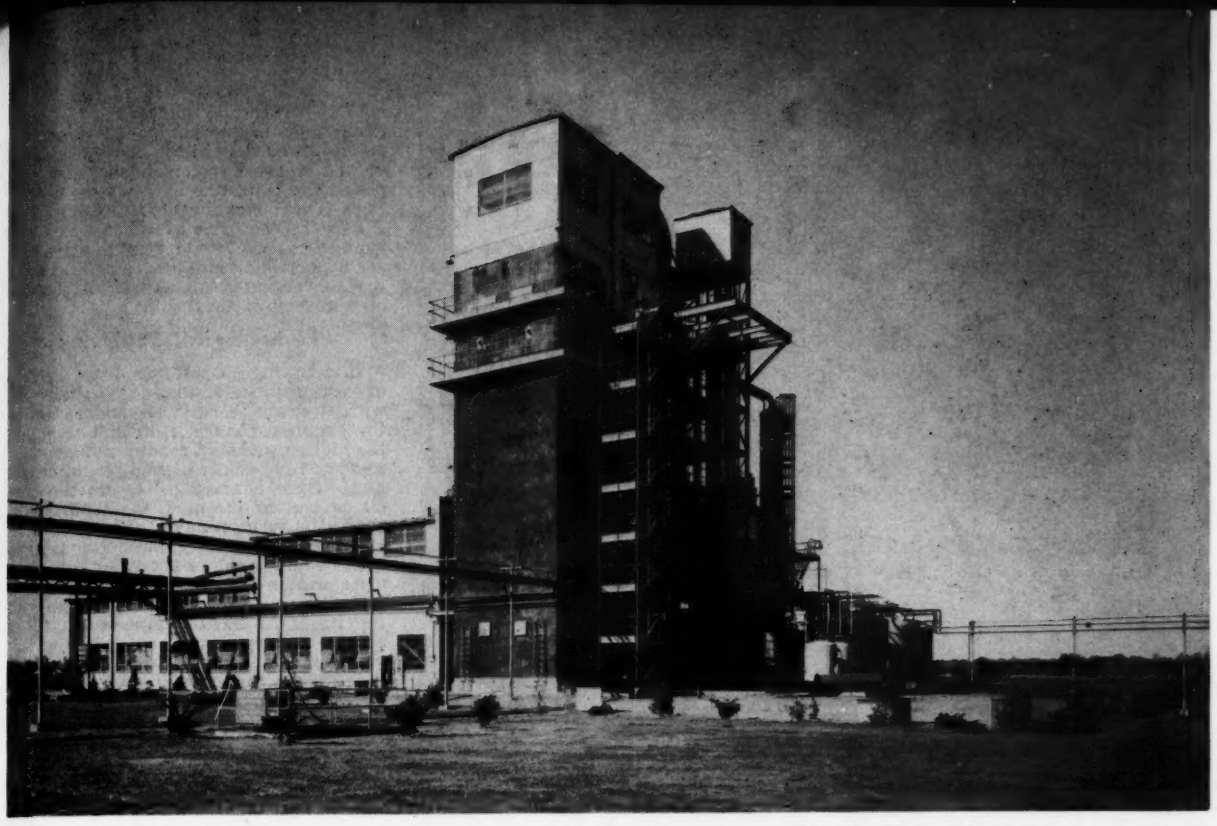


Industrial solvent extraction plant of the Buckeye Cotton Oil Co., Memphis, Tenn.

Problems and Progress in the

SOLVENT EXTRACTION OF COTTONSEED

TODAY five commercial plants for the continuous solvent extraction of cottonseed, all constructed within the past 3 years, make this process the latest industrial method of processing cottonseed in the United States. The recent announcement of plans to construct another plant in Georgia indicates that, in spite of the many difficulties that have been encountered in large-scale operations, the application of this method to cottonseed, directly as well as with prepressing, is still growing and that it will win a definite place in the cottonseed processing industry, which annually crushes from 3 to 4.5 million tons of cottonseed.

Continuous solvent extraction, a radical departure from hydraulic and screw pressing, is theoretically the most attractive method of processing cottonseed. Its use should reduce the residual oil in the cake to 1% or less as compared to 5.50 to 6.25% for hydraulic pressing (20) and 4.0 to 4.5 for screw pressing (1). Hydraulic pressing, the earliest and still the principal process, has the advantage of low capital and low maintenance costs, and the production of oil and meal of a quality already long accepted on the market; but requires a large amount of labor and leaves a high oil content in the cake. Continuous screw pressing requires less labor and recovers a higher percentage of the oil than hydraulic pressing; but has higher initial and maintenance costs, and higher power requirements. For example, Ryan (26) gives a net saving in operating costs of $1.076 per ton of seed crushed and an increase of 9.652 pounds of oil per ton when 8 screw presses were substituted for the previous hydraulic presses. The principal advantage of solvent extraction is the possibility of obtaining a higher recovery of oil than can be done by any mechanical means. A disadvantage is the higher initial cost of the plant. A recent report (10) states that one make of extractor (16) recovers 38 pounds more oil per ton of seed than the hydraulic mill and gives a conversion cost from hydraulic pressing to solvent extraction of $398,661 for a 200 T/D plant. Bilbe (4) gives a recovery of 45 pounds more oil per ton of seed for the solvent plant than for the hydraulic mill and a conversion cost from hydraulic pressing to solvent extraction of $390,000 for a 200 T/D plant. Moore estimated in 1947 (20) that the solvent operation would mean a saving over the hydraulic operation of about 45 pounds of oil per ton of seed processed and an overall gain in profit compared with the hydraulic mill of about $11.00 per ton. This was based on an estimated residual oil content in the extracted meal of 1.00 to 1.50%. In 1950 he gives (21) an average of 2.6% actually obtained for that season with direct extraction. He gives also an average of 0.3% actually obtained for that season with prepressing. This is equivalent to an additional increase in the yield of oil of 18 pounds per ton of seed processed. Table I gives ranges of pertinent data from certain industrial direct solvent extraction operations.

The economic advantage of the higher yield of oil is determined by the ratio of the current price of oil to the current price of meal. Table II shows that this ratio varied from 4.1 to 6.7 between 1939 and 1947. Moreover, decrease in the residual oil content does not affect the protein content and the loss in weight of the meal can be made up by adding lower priced hulls.

A further advantage of the solvent extraction process is that the removal of the oil from the cottonseed meats at low temperatures makes available meals containing unmodified and soluable proteins. These meals are a potential source of

By R. M. Persell, E. F. Pollard, and E. A. Gastrock
Southern Regional Research Laboratory[1], New Orleans, La.
[1]One of the laboratories of the Bureau of Agricultural and Industrial Chemistry, Agricultural Research Administration, U. S. Department of Agriculture

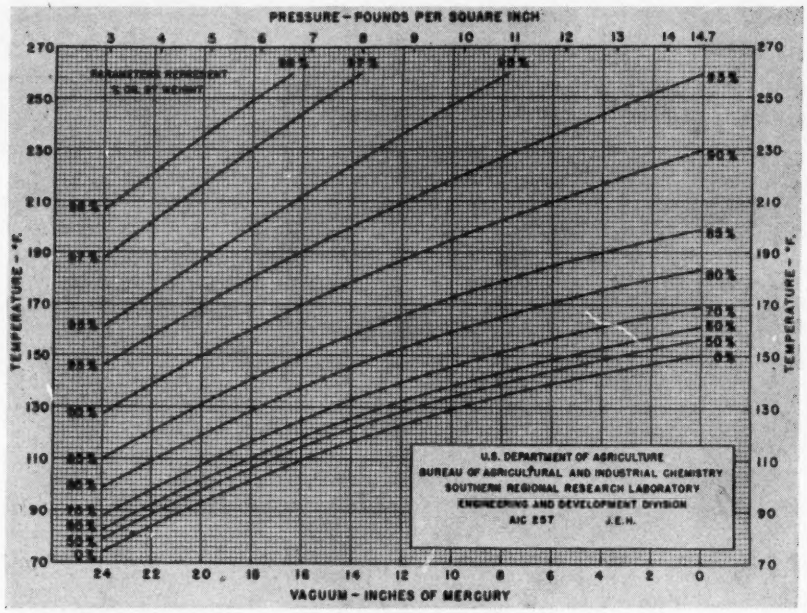

PRESSURE - POUNDS PER SQUARE INCH
3 4 5 6 7 8 9 10 11 12 13 14 14.7
270 250 230 210 190 170 150 130 110 90 70
TEMPERATURE - °F.
95%
90%
85%
80%
70%
60%
50%
0%
U.S. DEPARTMENT OF AGRICULTURE
BUREAU OF AGRICULTURAL AND INDUSTRIAL CHEMISTRY
SOUTHERN REGIONAL RESEARCH LABORATORY
ENGINEERING AND DEVELOPMENT DIVISION
AIC 257 J.E.H.
24 22 20 18 16 14 12 10 8 6 4 2 0
VACUUM - INCHES OF MERCURY

Fig. 1—Economic significance of the increased yield of oil.

industrial protein for use in the production of adhesives and fibers (3) and of high nitrogen solubility feeds (9, 13). At present, cottonseed meal is limited to use primarily as cattle feed.

However, before these advantages of the process can be fully realized, the industry must solve many complex economic and technological problems. The solutions to some of these problems are being worked out in commercial plants and to others in research laboratories.

Economic Problems

The basic economic consideration is that cottonseed is a byproduct of cotton lint and hence its processing for oil and meal is geared to the production of lint, not necessarily to the edible oil supply and demand. Lund stated (17) that a general decline in cotton acreage and production, resulting from a variety of factors, has been chiefly responsible for the decreased production of cottonseed commodities and that a continued downward trend in cotton production can be expected to be accompanied by a downward trend in the cottonseed products industry. He offers as one solution the development of a type of cotton with a higher seed content.

A further economic consideration is the size of investment required to make a solvent extraction plant commercially attractive in comparison with hydraulic or screw press mills. The recent report (10) quoted above gives the following conversion costs and increased annual returns when an existing hydraulic mill is replaced with a solvent plant (based on 200 days per year operation): $349,839 and $39,760 for 100 T/D; $375,871 and $74,610 for 150 T/D; $398,661 and $124,720 for 200 T/D; and $420,555 and $160,400 for 250 T/D.

When the initial investment is increased, the fixed expenses rise and it takes a greater production to yield enough marginal income, after variable costs, to cover fixed costs and leave a profit. To obtain this greater production a mill must either get sufficient cottonseed to operate the greater part of the year or divert for part of the season to processing other oilseeds such as soybeans, peanuts, tung nuts, safflower, and others. The report just mentioned gives the following additional annual returns when a solvent extraction plant operates 100 days a year on soybeans in addition to the basic operation of 200 days on cottonseed: $161,230 for 100 T/D, $242,580 for 150 T/D, $332,970 for 200 T/D, and $413,975 for 250 T/D.

The significance of the possible higher recovery of the oil becomes less as the price of the oil declines while the additional overhead expenses remain the same. This can be illustrated by taking certain actual industrial average values where the conversion costs and oil recovery per ton of seed processed by solvent extraction are $3.50 and 35 pounds greater than for hydraulic pressing. When the price of oil is 10¢ per pound the solvent extraction plant breaks even with the hydraulic mill. When the price of oil rises to 20¢ per pound there is a $3.50 differential per ton of seed in favor of the solvent process. Below 10¢ per pound the hydraulic mill has the advantage. These relationships are shown in Figure 1. The price of oil at which solvent extraction would become attractive for a particular mill would depend upon the conversion costs as well as on the oil recovery of that mill.

Technological Problems

In adapting to cottonseed the solvent extraction process, already so successful with soybeans, certain characteristics of the cottonseed make it difficult to obtain the highest yields of readily refinable oils and a light-colored, highly nutritious meal. These characteristics are the high oil content of the seed, the tendency of the meats to form flakes of low stability, and the presence of pigment glands firmly embedded in the meats which can cause discoloration of the oil and discoloration and decrease in the nutritive value of the meal. A feasible process has been sought by varying the application of solvent extraction to cottonseed in such processes as the extraction of prepressed meats and the extraction of whole seed; by fractionating the meats into oil, meal, hulls, and pigment glands; and by seeking to improve certain steps which are essential in any continuous solvent extraction process.

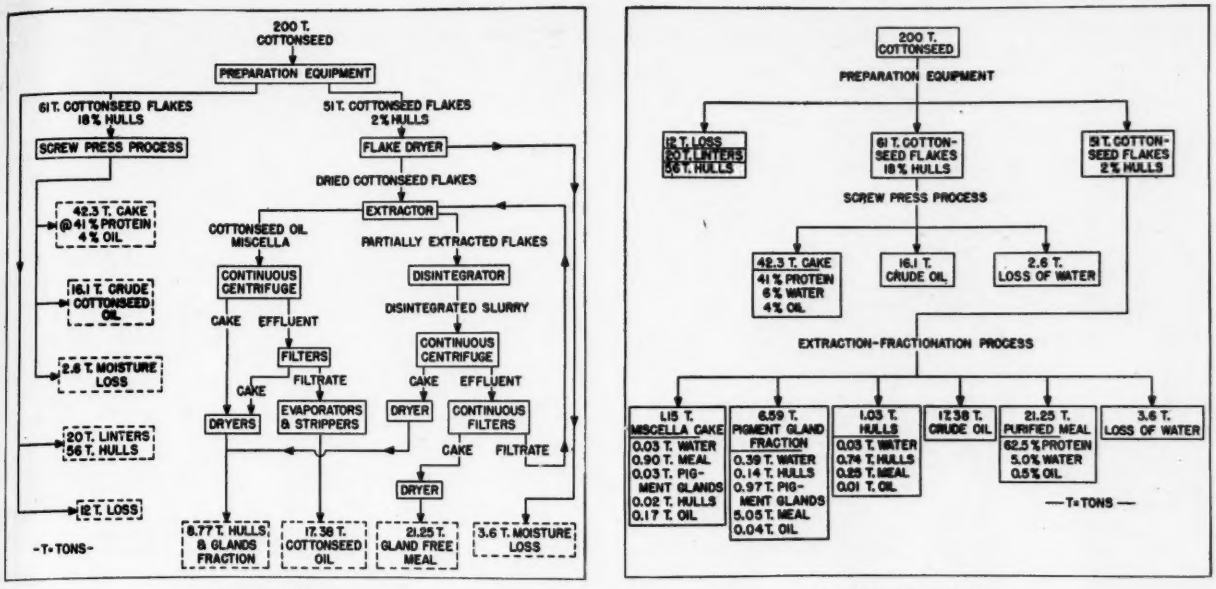
New Approaches

• **Prepressing**—The prepressing of cottonseed to an oil content of 15 to 20% before solvent extraction was developed and practiced in Europe prior to the last world war. Moore (21) reported the first application in the United States on a commercial scale of prepressing before continuous solvent extraction of cottonseed and gives the following advantages over the previous direct solvent extraction process: reduction of the residual oil to 0.3 from 2.6%, solvent losses to less than one half, and steam and water consumption to a third; elimination of the need for a horizontal continuous centrifuge; and production of a better quality oil and meal. He states that the crude oil refines to a light color and has excellent bleaching qualities.

Rea (24) discussed a modification of the Skipin process to include moderate pressing and its application in particular to high oil content seeds such as cottonseed. This process depends on the selective wetting of the solid seed surfaces by water, in preference to oil, thereby releasing oil droplets forming a continuous phase which will flow through the perforated false bottom of a heated "forepan." He stated that the reported advantages of the Skipin process are that (1) "free" gossypol is removed with the oil obtained from the "forepan," (2) the oil recovery is greater, and (3) the oil from

TABLE I. Ranges of Processing Data—Direct Solvent Extraction

	Lipids	F.F.A.	Nitrogen	Protein Solubility	Lovibond Color Refined Oil		Gossypol	
					Y	R	Free	Total
	%	%	%	%			%	%
Meats before conditioning	30.04-30.45		4.95-4.97	73.1-77.9			0.95-0.98	1.11-1.15
Meats after conditioning	29.07-30.71		4.36-4.60	66.6-67.7			0.71-0.95	1.04-1.17
Flakes at flaking rolls	29.45-33.31		4.53-4.75	61.5-74.3			0.69-1.03	1.04-1.20
Solvent Free Meal	2.73-3.04		6.41-6.83	50.2-61.2			0.56-1.00	1.40-1.60
Toasted Meal	2.52-3.04		6.95-7.08	33.8-47.0			0.57-0.66	1.38-1.44
Pelleted Toasted Meal	2.73-3.54		6.22-7.00	23.6-49.8			0.51-0.57	1.34-1.36
Miscella	19.1-19.5							
Crude Oil for shipment	99.66-99.67	1.95			35-35	4.5-6.9		


200 T. COTTONSEED
PREPARATION EQUIPMENT
61 T. COTTONSEED FLAKES 18% HULLS
51 T. COTTONSEED FLAKES 2% HULLS
SCREW PRESS PROCESS
FLAKE DRYER
DRIED COTTONSEED FLAKES
EXTRACTOR
42.3 T. CAKE @ 41% PROTEIN 4% OIL
16.1 T. CRUDE COTTONSEED OIL
2.6 T. MOISTURE LOSS
20 T. LINTERS 56 T. HULLS
12 T. LOSS
-T-TONS-
COTTONSEED OIL MISCELLA
CONTINUOUS CENTRIFUGE
CAKE
EFFLUENT
FILTERS
FILTRATE
CAKE
DRYERS
EVAPORATORS & STRIPPERS
PARTIALLY EXTRACTED FLAKES
DISINTEGRATOR
DISINTEGRATED SLURRY
CONTINUOUS CENTRIFUGE
CAKE
EFFLUENT
DRYER
CONTINUOUS FILTERS
CAKE
FILTRATE
DRYER
8.77 T. HULLS & GLANDS FRACTION
17.38 T. COTTONSEED OIL
21.25 T. GLAND FREE MEAL
3.6 T. MOISTURE LOSS
200 T. COTTONSEED
PREPARATION EQUIPMENT
12 T. LOSS 20 T. LINTERS 56 T. HULLS
61 T. COTTONSEED FLAKES 18% HULLS
51 T. COTTONSEED FLAKES 2% HULLS
SCREW PRESS PROCESS
42.3 T. CAKE 41% PROTEIN 6% WATER 4% OIL
16.1 T. CRUDE OIL
2.6 T. LOSS OF WATER
EXTRACTION-FRACTIONATION PROCESS
LIS T. MISCELLA CAKE 0.03 T. WATER 0.90 T. MEAL 0.03 T. PIGMENT GLANDS 0.02 T. HULLS 0.17 T. OIL
6.59 T. PIGMENT GLAND FRACTION 0.39 T. WATER 0.14 T. HULLS 0.97 T. PIGMENT GLANDS 5.05 T. MEAL 0.04 T. OIL
1.03 T. HULLS 0.03 T. WATER 0.74 T. HULLS 0.25 T. MEAL 0.01 T. OIL
17.38 T. CRUDE OIL
21.25 T. PURIFIED MEAL 62.5% PROTEIN 5.0% WATER 0.5% OIL
3.6 T. LOSS OF WATER
—T-TONS—

a.—Flow diagram. b.—Material balance.

Fig. 2—Model 200-ton per day combination screw-press extraction-fractionation plant.

the "forepan" is of good quality and refines easily.

• **Extraction of Whole Seed**—A novel approach to the solution of the problems encountered in the conventional solvent extraction of cottonseed meats is the solvent extraction of oil from cottonseed before the removal of linters, and treatment of the residue to effect separation of meal, hulls, and linters. This work is being carried out by the Texas Engineering Experiment Station under contract for the United States Department of Agriculture.

• **Fractionation of Meats**—A unique approach to the processing of cottonseed is the fractionation of the meats into oil, meal, hulls, and pigment glands, as reviewed by Gastrock (12). Persell (22) reviewed a pilot-plant development of this process, proposed a feasible application in a combination screw-press extraction-fractionation plant (Figure 2), and examined such a plant in terms of processing costs (Table III). He stated that the present value of the process lies in the production of two new products, a purified high-protein meal and a concentrated pigment gland fraction, and in the possibility of producing a high-grade oil, since the removal of the whole pigment gland prevents the pigment material from entering the oil product. On the basis of the present stage of development of the fractionation process and the present possible utilization of the products he concluded that the combination plant is economically feasible and that the development of additional and more profitable uses for the two new products, the purified high-protein meal and the concentrated pigment gland fraction, would increase their value and provide a broader and more stable market for cottonseed.

TABLE II. Comparison of Cottonseed Oil and Meal Prices

Year	Season Average Prices[1]		Price of Oil
	Oil Cents Per Pound	Meal Dollars Per Ton	Price of Meal
1939-40	5.64	27.58	4.1
1940-41	6.54	26.65	4.9
1941-42	12.27	36.61	6.7
1942-43	12.75	37.88	6.7
1943-44	12.75	48.54	5.3
1944-45	12.75	48.50	5.3
1945-46	12.75	55.06	4.6
1946-47	24.78	74.55	6.6
1947-48	26.25	86.80	6.0

[1]"Working Manual for Cooperative Cottonseed Oil Mill Operators," Miscellaneous Report 128, FCA, USDA (1949).

General Problems

The essential steps in any solvent extraction process include storage and preparation of the seed, extraction of the oil, clarification of the miscella, recovery of the crude oil and solvent, and desolventizing and preparation for sale of the extracted meal. Each of these steps is part of an integral operation and must be accomplished satisfactorily and coordinated with the remainder of the process. An understanding of each step and its relation to the remainder of the process is the only sound basis for a critical

(Continued on Page 24)

TABLE III. Spread between Value of Products and Cost of Products Per Ton of Cottonseed[1]

	1948 Basis			1944 Basis			1939 Basis		
	Screw Press	Extraction Fractionation	Plant Average	Screw Press	Extraction Fractionation	Plant Average	Screw Press	Extraction Fractionation	Plant Average
	$	$	$	$	$	$	$	$	$
Cost of Cottonseed per ton	67.4000	67.4000	67.4000	52.7000	52.7000	52.7000	21.1400	21.1400	21.1400
Conversion Cost per Ton of Cottonseed	11.0362	14.4343	12.7354	7.1580	9.3619	8.2599	5.6498	7.3894	6.5196
Total Cost per Ton of Cottonseed Processed	78.4362	81.8343	80.1354	59.8580	62.0619	60.9599	26.7898	28.5294	27.6596
Total Value of All Products per Ton of Cottonseed	109.0260	113.5666	111.2968	74.0705	75.6547	74.8627	39.4824	39.3064	39.3945
Total Cost (above)	78.4362	81.8343	80.1354	59.8580	62.0619	60.9599	26.7898	28.5294	27.6596
Spread	30.5898	31.7323	31.1609	14.2125	13.5928	13.9028	12.6926	10.7770	11.7349

[1]From "Pilot Plant Fractionation of Cottonseed: V. A Preliminary Cost Study" by Persell et al.

THE PHOTOGRAPH shows a large segment of the more than 600 delegates at Memphis conference.

Decision at Memphis, Dec. 7-8:

BETTER CONTROL of Insects Needed to Meet Cotton Goal

SOME LESSO[ns] are harder to learn than others, [and] one of the toughest has been [that] cotton insects are unpatriotic to an [alarming] degree and will eat out the [seat] of your pants if allowed to do so.

This year, at t[he] very time we were making the discov[ery] that every lock of the 1950 crop was desperately needed, the boll weevil and the lesser lights among the cotton pests went right ahead and completed—from a dollars-and-cents standpoint—their second most successful season in history. Final data are not in, but the National Cotton Council in a preliminary estimate figures that the bugs this year got 16.5 percent of the crop. This amounts to 2,545,409 bales of cotton and 1,052,739 tons of seed worth $598,564,615.

The impact of this loss is much greater when it is compared with some of the 1950 state production figures. For example, the loss is greater than the lint production of Mississippi and Arkansas combined. It comes within only a little more than 350,000 bales of equalling the estimated production of the entire state of Texas this year. The loss of cotton to insects in 1950 actually exceeds the estimated total production of Missouri, North Carolina, South Carolina, Georgia, Tennessee and Alabama.

Many other equally shocking comparisons can be made, but the simple, brutal point to be considered is that we are still sacrificing far too much of our income from cotton and cottonseed to pests that can be economically controlled.

• **We're Learning**—However, it appears that we may be about to come of age in insect control. This year's bitter experience may have at last driven the lessons squarely home.

Signs pointing in that direction were very much in evidence at the fourth annual Cotton Insect Control Conference held under National Cotton Council sponsorship at Memphis on Dec. 7 and 8. The

IT APPEARS THAT, at long last, we may be about to come of age in cotton insect control. Given the materials and the equipment to apply them, our farmers in 1951 will wage unprecedented warfare against their traditional insect enemies.

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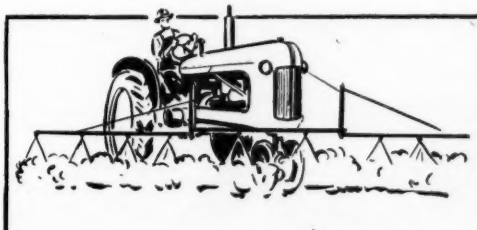

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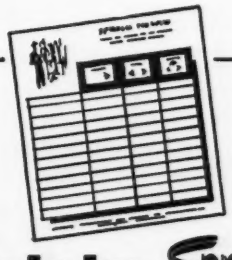

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biggest attendance in the history of these conferences—more than 600 delegates shrugged aside bad weather to pour in by air, rail and car — heard speakers representing government and industry give a clear analysis of the insect control picture and went home with the feeling that, given the materials and the equipment to apply them, farmers next year will wage unprecedented warfare against their traditional insect enemies.

In his welcome address, Cotton Council President Harold A. Young told the delegates:

"A meeting such as this, bringing together entomologists, cotton industry people, insecticide manufacturers, workers in our experiment stations and extension services and at our colleges, offers a golden opportunity for laying the groundwork for an integrated program of cotton insect control."

• **More Progress Than Ever Before**—Despite the heavy losses the cotton industry suffered in 1949 and again this year due to insect damage, more progress than ever before is being made in programs to control pests, he said.

Young noted that this year farmers applied more insecticides than ever before in history. Had this not been done, he added, damage would have been indeed disastrous, as mild winters and unfavorable weather for poisoning during the critical periods for control both worked in favor of cotton insects.

• **The Supply Situation**—Although it seems obvious that a period of relative scarcity of insecticides looms ahead in 1951, with proper management the insecticide industry can produce sufficient materials of all kinds for reasonable protection of all major crops, Ernest Hart, president of the National Agricultural Chemicals Association, told the conference.

Warning that "nothing any worse could happen to individual planters than for the government to attempt to effectively distribute insecticide materials," the NACA head reminded the conferees that "the industry has time and time again demonstrated its unusual capacity to take care of all distribution matters pertaining to insecticides."

"Balance" will be one of the most important elements entering into availability of pesticides in 1951, Hart predicted, explaining that to market an insecticide the industry needs the proper amount of the various chemicals which make up the formula, as well as the labor, power and equipment to convert its containers to ship it and transportation to get it to the consumer. Deficiency in any of these elements unbalances the manufacturing schedule, Hart observed. He noted, too, that not only is the pesticide manufacturer faced with problems of balance but, in turn, each of the raw materials which he uses is faced with the same problems in respect to its production.

Since costs of all raw materials which enter into pesticide production will be higher, insecticide prices next year will likely be up, Hart said.

• **Some "Do's"**—He urged cotton farmers to: (1) decide now on the pest control program they will use and stick to it; (2) decide on several possible alternatives if desired materials are not available; (3) place orders immediately; and (4) keep application equipment in good working order and if airplane dusting or spraying is planned, make arrangements now for this service next season.

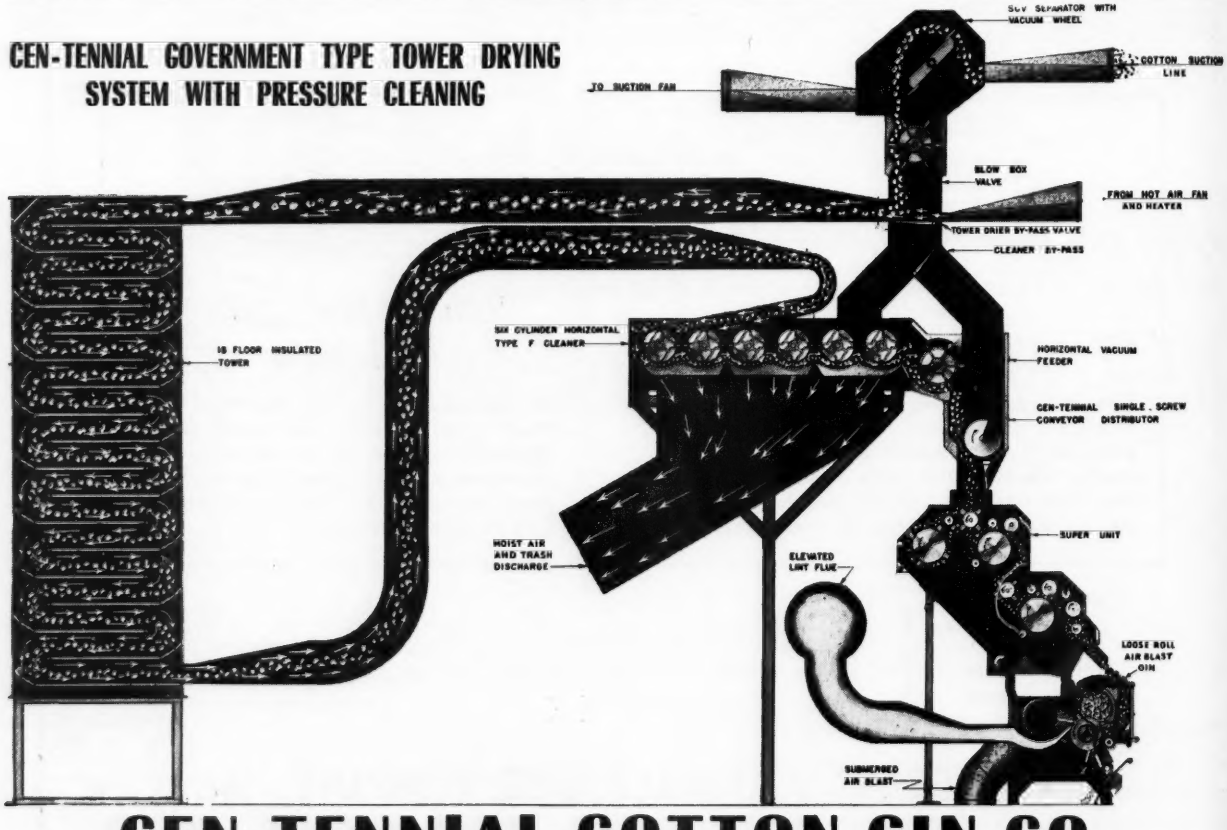
• **And Some "Don'ts"**:—He listed these "don'ts": (1) don't hoard more pesticides than needed; (2) don't buy insecticides on the black market at premium prices; (3) in local shortages don't attempt to rectify a local situation through government interference; (4) don't be taken in by unscrupulous people who wish to take this opportunity to foist some new, untried materials or even dangerous materials as alternatives; (5) don't expect quick action on the part of manufacturers to supply local needs; and (6) don't change insecticides unless absolutely necessary, since plans for distribution to local customers are made months in advance and changes in purchasing channels upset schedules.

• **Why We Need 16 Million Bales in 1951**—In discussing the supply and demand situation, Dr. M. K. Horne, chief economist of the National Cotton Council, reviewed six reasons why the outlook has changed from one of surplus to shortage during the past 12 months. They are:

(1) This year's crop is 6,100,000 bales less than last year's.

(2) Domestic use of cotton in the sea-

CEN-TENNIAL GOVERNMENT TYPE TOWER DRYING SYSTEM WITH PRESSURE CLEANING



CEN-TENNIAL COTTON GIN CO.

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son ended last August was up one million bales from the previous season.

(3) Domestic consumption in the current season is running at a rate more than 1,500,000 bales above last season and 2,500,000 above the preceding season.

(4) Exports in the season ended Aug. 1 totaled 5,800,000 bales, or a million more than the preceding season.

(5) The export demand is continuing very strong this season.

(6) The business recession of 1949 has been replaced by a boom based on the certainty of continued rearmament.

This year's crop of 9.8 million bales, a carryover of 6.8 million bales and imports—expected to be around 200,000 bales—would make our total supply 16.8 million bales, Dr. Horne said. Domestic consumption is at the rate of 10.3 million bales a year. When this amount is subtracted from the supply, a balance of 6½ million bales is indicated. This 6½ million bales will be all that we will have to divide between exports and the carryover as of next Aug. 1, he explained.

In the last crop year exports were 5.8 million bales and, the Council economist said, foreign countries used up this amount during the year. Foreign demand is expected to continue, he predicted.

• **Facts to the Farmer**—Claude L. Welch, the Cotton Council's director of production and marketing, said our farmers can grow six million more bales of cotton in 1951 than they did in 1950 even though they are threatened with shortages of materials.

Stressing—as did Dr. Horne and other speakers—that at least 16 million bales will be needed to meet domestic demands and to supply our friends abroad, Welch told the conference that federal and state agencies and the cotton industry already have embarked upon an intensive program to bring these facts to cotton farmers.

These agencies, he said, are now working with producers to overcome some of the problems confronting the industry in meeting the USDA's goal of 16 million bales.

Enumerating cotton production problems expected to arise in 1951, Welch noted that farmers already are finding it difficult to obtain adequate supplies of good planting seed. He added that the defense program will likely impose severe demands on industries producing fertilizer, insecticides and farm equipment. Possibility of a shortage of labor will make it mandatory, he continued, that farmers utilize available manpower and machinery to the fullest.

He stressed that higher yields of cotton will be necessary in obtaining maximum production and effective cotton insect control will be one of the key factors in the farmer's efforts to produce more pounds per acre.

• **Flexible Plans for Control**—"It would seem unwise for cotton farmers to plan a program of insect control around a single kind of insecticide in 1951," warned Dr. H. L. Haller of USDA's Bureau of Entomology and Plant Quarantine.

"Flexible plans which include provision to shift from one effective insecticide to another would seem advisable," the BEPQ official told the conference.

He advised farmers to place their orders immediately for insecticides, predicting that "it is likely that supplies will be considerably short of requirements if insect infestations are as heavy as they are during an average year and cotton growers continue to use insecticides as they have during the last two years."

• **Rapid Trend to Sprays**—There is a definite trend toward the use of sprays to replace dusts as insecticides for cotton, V. K. Quattlebaum, assistant agricultural engineer, Edisto Experiment Station, Blackville, S. C., told the conference. He cited these advantages of sprays over dusting: (1) more time is available for applying insecticides since sprays may be employed with wind velocities up to 12 miles per hour; (2) combination of one or more operations into one, since equipment for cultivating and spraying cotton in one operation is now available; (3) lower cost of materials and possibly machines; and (4) uniform and constant distribution.

Quattlebaum said it appears, from results obtained in tests in a two-year period in South Carolina, that sprays give equal control to dusts. He said this does not mean, however, that there is any justification for discarding dusting equipment, certainly not in the Southeast.

With present dusting machines, the agricultural engineer pointed out, some of the following mistakes are made: (1) dusting with high wind velocity; (2) allowing dust to get too low in the hopper; (3) improper adjustment of nozzles; (4) failure to use fenders for late application, thus causing fruit damage; (5) depending on a single duster to cover

(Continued on Page 20)

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By FRED BAILEY
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Washington Representatives
The Cotton Gin and Oil Mill Press

BAILEY

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• **Cotton to Have Top Priority Rating**—Cotton is to have a major role in the defense program. It is to get top priority among all farm commodities when fertilizer, machinery, insecticides and labor supplies are parceled out in 1951.

Washington wants "at least" 16 million bales next year, and talk now is current that this target may be upped by two million bales. The talk of a higher goal originated out of the Truman-Atlee talks, in which Britain pleaded for more of the American fiber.

Reaction of the U.S. Department of Agriculture is that, while it would like to see the order filled, there is a big difference between asking and getting the higher production. Some officials think that even the 16-million bale goal cannot be reached without exceptionally favorable weather.

Grower representatives, including Rhea Blake of the National Cotton Council, think farmers may not plant the acreage needed for a 16-million bale crop unless they have reasonable assurance that adequate supplies of labor, fertilizer and insecticides will be made available to grow and harvest a big crop.

So far no such assurance has been given. Commerce Department officials, who have charge of production and allocations, say the Agriculture Department has made no "firm estimate" of farm needs for fertilizer and insecticides. Pesticide manufacturers say they hope to have available as much spray and dust material as this year, but that the actual amount will depend upon the amount of scarce chemicals they can get. The same situation prevails in regard to fertilizer.

The farm labor supply is even more uncertain. Neither the Agriculture nor the Labor Department has prepared estimates of probable labor needs. Official "guesses" range from 200,000 to 500,000 foreign workers, plus an at least equal number of seasonal workers that may be recruited from domestic sources.

• **Labor Is First Problem**—Farm labor may be the first agricultural problem taken up by the new Congress when it comes to Washington next month. The House Agriculture Committee has asked the Labor Department to come up with suggested legislation early in January.

The committee has held a closed-door session with representatives of the Employment Service, Agriculture, State and immigration officials, and members of a special Washington subcommittee of the National Farm Labor Advisory Committee at which the entire farm labor problem was surveyed.

Employment Service officials said they were making a survey of probable farm labor needs and that they hoped to have at least a preliminary estimate ready by February. Farm spokesmen said that would not be early enough to permit crop planting plans in time to get maximum production.

The Employment Service, it is understood, is now drafting legislation which would authorize the payment of transportation costs of off-shore labor to ports of entry, operation and maintenance of "holding centers" for such workers and government-to-government contracting for agricultural labor. The proposed legislation is expected to be submitted, for suggestions, to a special meeting of the Farm Labor Advisory Committee here about the middle of January.

• **Time Needed to Ready Control Machinery**—Washington defense planning still is fuzzy as to details, but it now is clear that the build-up for World War III will call for at least as many controls as were in effect at the height of World War II. In an all-out war with Russia, controls would be tightened and broadened.

Most of the controls now being planned for early use directly involve prices, industrial production and labor. Neither broad nor detailed controls are yet planned for agriculture. The big objective for agriculture is all-out production in 1951.

Planners now are proceeding on the Washington consensus that the U.S. is headed for a really big war—that a show-down with Russia sooner or later is almost certain. Hopes for peace have faded rapidly in the past few weeks.

Under the national emergency proclaimed by President Truman, broad control powers are available without waiting for Congress to act. Congress already has indicated that it will not stand in the way of use of those powers. It will give the President practically anything he asks for.

However, across-the-board controls over all production, wages, prices and rationing do not appear probable for the near future. Administrative machinery for controls will not be set up overnight. It will be at least two months before Washington can be ready to administer detailed controls at the consumer level.

• **Not as Much Room for Increase in Farm Production**—Agriculture's role in the defense program will be spelled out, officially, within the next few weeks. Secretary Brannan already has said that it will call for maximum production consistent with a reasonably sound land-use program.

Limitations on production will be due to limited supplies of labor, fertilizer, machinery and other factors rather than to government restrictions. No one knows yet what those will be. Department officials are asking that farmers be "kept at the head table" when production facilities are passed around. That wasn't done early in World War II.

Despite the urgency for maximum production, veteran farm observers think no big increase in over-all production can be expected next year. They point out that the situation is entirely different from 1942, when farm output began a climb that carried it up 35 percent in two years. Land, labor and machinery were not being fully used then. Production this year was at a level almost as high as during World War II. Total farm production next year isn't likely to increase by more than five percent if normal weather prevails.

Most of the increase will be in cotton, corn and wheat. The Department will be aiming for a 16-million-bale-plus cotton crop, a billion and a quarter bushel wheat crop and at least three and a half billion bushels of corn. Those three would take up all the 25 million acres of available ground in excess of 1950 plantings. Efforts will be made to hold acreage of nearly all other crops at about the 1950 level

• **Few Changes Likely in Farm Laws**—The new Congress, which comes to town in January, will be slow to tinker with present basic farm laws. That is the consensus of farm leaders and others who have talked with members during the lame duck session.

The big farm organizations have no major changes in mind and the Administration is not expected to propose anything much that would be new. It is keeping the Brannan plan alive, but not very healthy.

About the only legislative talk you hear among farm members of Congress is on minor changes. There is some talk of re-enactment of the Steagall Amendment to give 90 percent of parity support to "essential" non-basic crops, but there doesn't appear to be any strong backing for that. It could develop next year if ceilings are imposed at the farm level.

There has been some talk, too, of boosting the cotton support level from 90 to 100 or 120 percent of parity. Southern congressmen are not pushing that and there is no present indication that they will. Brannan already has announced 90 percent of parity and he will stick with that unless ordered by Congress to raise it.

National Ginners Will Meet March 4-5

The 1951 convention of the National Cotton Ginners' Association will be held at the Peabody Hotel, Memphis, Tenn., March 4-5, announces Horace Hayden, Oklahoma City, Okla., executive vice-president.

Other officers of the association are W. O. Fortenberry, Lubbock, Texas, president; J. F. McLaurin, Bennettsville, S. C., first vice-president; Walter Craft, Carlsbad, N. M., second vice-president; A. G. Swint, Orchard Hill, Ga., third vice-president; and Carl Trice Williams, Jackson, Tenn., secretary-treasurer.

• *At Dallas, Jan 8-9:*

TEXAS GINNERS' ANNUAL MEETING WITH ALLIED ORGANIZATIONS

■ **Purpose is to enlist aid of industries outside ginners' groups in laying plans for producing next year's crop and to "correct practices that hurt the industry." Cotton Council's Harold A. Young to address the meeeting.**

THE THIRD ANNUAL meeting of officers and directors of the Texas Cotton Ginners' Association with representatives of allied organizations in Texas will be held Jan. 8-9 at the Baker Hotel in Dallas.

Association President W. O. Fortenberry of Lubbock, who will preside at

W. O. FORTENBERRY

the sessions, points out that these are the only meetings of their kind held in the ginning industry. Allied organizations participating in the meetings are invited to "offer constructive criticism and aid in correcting practices that hurt the industry."

Mr. Fortenberry, who is also president of the National Cotton Ginners' Association, says advance reservations point to an attendance in excess of 200. The meeting is open to all ginners and members of allied organizations who wish to attend.

A number of questions will receive attention at the meeting but special consideration will be given to what the association terms three of its most pressing problems: agricultural labor, burr burners, and insurance.

"We feel that agricultural labor to produce and harvest the 1951 crop," Mr. Fortenberry advised, "is the most pressing problem facing the cotton grower and the ginner. New federal regulations that require schooling for all children under 16 years of age—even those who may be in a community for only a few days—have seriously disrupted the normal flow of migratory and 'bracero' workers and brought chaos to many school systems.

"This condition, along with the probability that many of our agricultural workers will be drafted into the armed forces, means that our potential labor pool will be greatly diminished," the Association official emphasized. "It appears that Texas will be called upon to produce from 6 to 6½ million bales of the 16-million-bale crop needed next year—more than one-third of the total. In view of the magnitude of the job ahead we are justifiably concerned over the possibility of not having sufficient manpower to meet our quota."

The Rio Grande Valley alone, comprising the four counties of Hidalgo, Cameron, Willacy and Starr—is aiming at one million bales next year and other sections of the state, notably the Coastal Bend and South Plains, are heading toward greatly increased cotton acreage.

Association officials hope to be able to work out a plan at the Jan. 8-9 meeting that will assure growers in these and other areas of the state an adequate labor supply to produce and harvest the crop.

Those scheduled to attend the committee meeting Jan. 8 on agricultural labor, in an advisory capacity to the association committee, are Consul General of Mexico Miguel G. Calderon; I. A. Pesqueira, consul of Mexico; Rafael Linaiers, vice-consul of Mexico; Wm. J. Rogers, regional director, U.S. Department of Labor; M. B. Morgan, state labor commissioner; Henry LaBlanc, chief, Farm Placement Bureau, Texas Employment Commission; C. B. Ray, Rio Grande Valley Farm Bureau; J. F. McLaurin, vice-president, National Cotton Ginners' Association, Bennettsville, S. C.; J. C. Wilson, president, Texas Cotton Industries, Pecos, and others.

HAROLD A. YOUNG

JAY C. STILLEY

The agricultural labor committee is headed by the Texas association's vice-president, S. N. Reed, of the O'Brien Cooperative Gin, O'Brien. Ginner members of the committee are Honorable Max C. Smith, San Marcos; John N. Burkhart, Alamo; E. E. True, Bishop; H. A. Pendleton, Munday; J. H. Plemons, Smyer; A. Guerra, Jr., Lynn; R. B. Sport, Shallowater; and Drew Watkins, Sudan.

The association's burr burner and insurance committees will also meet Jan. 8. Horace Belew, Abilene, will act as chairman of the meeting on burr burners and Walter Evans, Jr., Lorena, will be chairman of the insurance committee meeting. Ginner members who will participate in the meetings are Nolan Barmore, Loraine; Elmo Caudle, Hale Center; Orb Coffman, Goree; Maurice Goodwin, Afton; J. L. McCulloch, Dawson; A. J. Mills, Stamford; T. A. Montgomery, Sweetwater; W. R. Sanders, Thorndale; H. Q. Sharp, Mercedes; J. H. Plemons, Smyer; and Walter Craft, Carlsbad, N. M.

Col. Paul H. Brown, fire insurance commissioner of Texas, and Charles A. Bennett, regional engineer, U.S. Cotton Ginning Laboratory, Stoneville, Miss., will attend in an advisory capacity. Others who plant to attend in an advisory capacity are R. B. Cousins, Jr., manager, Texas Insurance Advisory Association, Austin; A. Sydney Briggs, Fire Prevention and Engineering Bureau, Dallas; L. F. Curl, division leader, Pink Boll Worm Control, BEPQ-USDA, San Antonio; Lee Bowman, Texas Automatic Sprinkler Co., Dallas; and V. M. Ehlers, C. E. director, State Department of Health, Austin.

Executives of the fire insurance underwriters companies and manufacturers of burr burners have said they will be in attendance at the Dallas meeting. An effort will be made to work out standards for burr burners in Texas and to

obtain complete information on insurance rates for 1951.

A business meeeting of the association directors will be held at 10 a.m. Jan. 8. They will hear a report of association activities during 1950 by Executive Vice-President Jay C. Stilley, Dallas, and formulate plans for 1951 activities.

The first general session will begin at 1:30 p.m., at which time the following organizations will present their suggestions to the ginners' association: Texas Cotton Association, Dallas Cotton Exchange, Southwest Compress & Warehouse Association, Texas Cottonseed Crushers' Association, Texas Extension Service, the gin machinery manufacturers, and National Cotton Ginners' Association.

There will be a fellowship party at 6:15 p.m. for all in attendance, with the gin machinery manufacturers acting as hosts, followed by a banquet at 7 o'clock. The wives of those attending the meeting are invited to be present at both affairs.

Following the banquet, R. Haughton, president of the Gin Machinery & Supply Association and publisher of *The Cotton Gin and Oil Mill Press*, will outline plans for the 1951 convention of the Texas Cotton Ginners' Association at Dallas, to be held April 2-3-4. His committee has met a number of times and arrangements have already been made to use both the Agricultural Building and the Science Building on the grounds of the State Fair of Texas for the convention. Additional space will be needed next year because of growing demands for exhibit space.

The only formal address scheduled for the two-day meeting will be made by Harold Young of North Little Rock, Ark., president of the National Cotton Council. He will speak following the report by Mr. Haughton, and will discuss plans now underway for producing 16 million bales next year. The Cotton Council has performed an invaluable service to the entire cotton industry by assisting federal and state agencies in formulating plans for reaching this goal. Mr. Young is providing the Council, and thus all branches of the cotton industry, with the kind of leadership so badly needed in our fight to increase consumption, both at home and abroad, of cotton and cottonseed products.

The session Jan. 9 will begin at 9:30 a.m., with Mr. Fortenberry outlining the steps it will be necessary for Texas ginners to take if the state is to produce its share of the 1951 crop.

Frank Brooks of Dallas, attorney for the Texas association, will report on matters now before Washington officials relating to the area of production and the **Wage-Hour Law.**

Horace Hayden of Oklahoma City, executive vice-president of the National Cotton Ginners' Association, will report on activities of that association and comment on the role of the Texas association in the overall program of the national organization.

Results of the burr burner and insurance conferences, held on the preceding day, as well as a report by the labor committee, will be given during the course of the second day's session. Action will be taken on these matters after a full discussion.

It is suggested that all who plan to attend the meeting so notify the Texas Cotton Ginners' Association, 109 N. Second Ave., Dallas 1.

People in The Press

• **R. M. Persell, E. F. Pollard** and **E. A. Gastrock** of the Southern Regional Research Laboratory are authors of a paper on solvent extraction of cottonseed. **Page 9.**

• Among top speakers at insect control conference in Memphis are Cotton Council President **Harold A. Young; Ernest Hart,** National Agricultural Chemicals Association; **Dr. M. K. Horne** and **Claude L. Welch,** Cotton Council; **V. K. Quattlebaum,** S. C. Experiment Station; **Dr. H. L. Haller, Dr. S. L. Calhoun, Dr. F. C. Bishopp,** and **L. F. Curl,** USDA-BEPQ; **W. E. Anderson,** Louisiana agriculture commissioner; **Dr. W. H. Tharp,** USDA-BPISAE; and **C. B. Carney,** Weather Bureau. **Page 12.**

• **Jay Richter** of this publication's Washington staff reports on bundling—er, the cotton industry, that is—in Holland. **Page 29.**

• Proof that fertilizing pays off in cotton production is given by **M. K. Thornton,** Texas Extension Service, in report on demonstrations by **Munroe Schubert,** Kingsbury, under direction of County Agent **B. N. Rector.** **Page 32.**

• **J. A. Kime,** Southern Regional Research Laboratory, heads committeemen for American Oil Chemists' Society meeting in New Orleans May 1-3. **Page 32.**

• Cotton Defoliation Conference in Memphis will be under general direction of **Dr. W. H. Tharp,** USDA-BPISAE. Speakers include **Claude L. Welch,** Cotton Council; **Dr. Tharp;** and **J. T. Massengale,** Sharples Chemicals. Presiding at discussion sessions will be **Harold Loden,** University of Georgia; **Tildon Easley,** American Cyanamid Co.; **Don L. Jones,** Texas Experiment Station; **Stanley Strew,** Chipman Chemical Co.; **William E. Meek,** Delta Branch Experiment Station; **Paul B. Marsh,** USDA-BPISAE; and **Frank L. Stark,** American Cyanamid Co. On steering committee are **C. B. Haddon,** Northeast Louisiana Experiment Station; **Jones; Meek; I. M. Parrott,** Oklahoma Cotton Experiment Station; **Easley;** and **Leonard Lett,** Cotton Council. **Page 33.**

• **Mrs. Sue Fleming Bridgers,** wife of **Furman N. Bridgers,** dies Dec. 10. **Page 34.**

• **E. M. Cooke,** secretary-treasurer, Texas coop ginners, announces their 1951 convention will be held at Fort Worth Feb. 5-6. **Page 35.**

• A cooperative cottonseed oil mill has been formed at Fresno, Calif., by **Tilford Cheney,** president; **W. O. Freeman,** vice-president; **Lyman Griswold,** secretary; **Clinton Hagler,** treasurer; and **Carl C. Gunlund** and **C. L. Mills,** directors with the officers. **E. J. Cecil** is general manager and **L. L. Touton** is assistant manager. **Page 35.**

• The National Cotton Ginners' Association will meet March 4-5 at Memphis, Tenn., announces Executive Vice-President **Horace Hayden.** Other officers are **W. O. Fortenberry,** president; **J. F. McLaurin, Walter Craft** and **A. G. Swint,** vice-presidents; and **Carl Trice Williams,** secretary-treasurer. **Page 16.**

• A son, **J. Van Rogers III,** is born to **J. Van Rogers, Jr.,** NCPA Educational Service, and **Mrs. Rogers.** **Page 27.**

• **James E. Coyle,** Rowlett, Texas, ginner, has been named Dallas County "farmer of the year." **Page 19.**

• Georgia ginners will hold their 1951 convention in Atlanta March 4-5, announces President **Warren B. Hodge.** **Page 22.**

• **William R. Elsas,** president, Fulton Bag & Cotton Mills, dies Dec. 9. **Page 27.**

• A pioneer Texas ginner, **J. Sid Hall,** Beeville, dies Dec. 13. **Page 22.**

• **Oscar J. Knox,** pioneer Mississippi oil mill operator, dies at his home in Pontotoc Dec. 12. **Page 19.**

• Doing just a little bit of bragging about California's cotton production while visiting in Dallas is **R. D. Ryan,** Fresno oil mill superintendent. **Page 22.**

• **A. S. Hunnicutt, Sr.,** wins Georgia cotton contest with 11 bales on five acres. His son, A. S. Hunnicutt, Jr., is one of six district winners, who included **John F. Hayes, Russell Prescott, Sr., Ora Scarborough, W. G. Legg** and **Frank Greer. Homer G. Ray,** president of Georgia crushers, and **J. E. Moses,** secretary, are on luncheon program announcing winners. **Page 27.**

• Arkansas-Missouri ginners will meet at Hot Springs June 4 and 5 next year, **J. W. Karsten, Jr.,** executive vice-president, announces. **Page 27.**

• **Dr. Randall J. Jones** will be new associate dean of agriculture and associate director of Oklahoma Experiment Station, Dean **W. L. Blizzard** announces. **Page 22.**

• President **Harold A. Young** announces names of 55 cotton leaders appointed to Cotton Council committees for 1951. **Page 22.**

• **W. O. Fortenberry,** Texas ginners' president, announces the program for the third annual meeting of that organization's officers and directors with representatives of allied organizations Jan. 8-9 at Dallas. **Harold A. Young,** Cotton

Council president, will be top speaker. Reports on plans for 1951 will be made by **Jay C. Stilley**, executive vice-president of the association; **R. Haughton**, speaking for machinery and supply men; **Frank Brooks**, association attorney; and **Horace Hayden**, national ginners executive vice-president. Page 17.

* * *

• American Farm Bureau Federation convention speakers in Dallas include President **Allan B. Kline**; **Oris V. Wells**, USDA-BAE; **Ed Lipscomb**, Cotton Council; and **J. O. Knapp**, West Virginia Extension Service. Page 19.

Farm Bureau

Opposes Rationing, Price Controls

The American Farm Bureau Federation officially made it known that it is against price and wage controls and consumer rationing by passing, ahead of the time it was scheduled to come up during closing session of the convention in Dallas Dec. 11-14, a resolution condemning such controls and sending the message to Washington.

Pledging the American farmer to produce the food and fiber which is needed, the resolution declared that "we insist we be given an opportunity to demonstrate our productive capacity without controls." It urged that inflation be fought with higher taxes, government economy, intensified sale of "E" bonds, increased production, a longer work week without overtime, continued curbs on housing and installment credit, and less government borrowing from banks.

Speakers included federation President Allan B. Kline; Oris V. Wells, chief, USDA's Bureau of Agricultural Economics; Ed Lipscomb, public relations director, National Cotton Council; and J. O. Knapp, director, West Virginia Agricultural Extension Service.

Dec. 1 Crop Report Shows Decrease

The Dec. 1 USDA estimate of the 1950 cotton crop showed a decrease of 61,000 bales to 9,884,000 bales (500 pounds gross weight) from the Nov. 1 estimate of 9,945,000 bales.

The indicated 1950 crop compares with 16,128,000 bales produced in 1949 and the 1939-48 average of 11,599,000 bales.

Acreage for harvest is estimated at 17,850,000 acres, with abandonment indicated at 4.3 percent of the 18,654,000 acres in cultivation July 1.

Acre yield of lint cotton indicated as of Dec. 1 is 265.4 pounds compared with 284 pounds in 1949 and 261.3 pounds for the 10-year average.

Pioneer Mississippi Oil Miller, O. J. Knox, Dies

Oscar J. Knox, 83, president of the Pontotoc Cotton Oil Mill at Pontotoc, Miss., died at his home there Dec. 12 following an illness of several weeks. Funeral services were held Dec. 13 at the home.

One of the pioneer Mississippi cottonseed crushers, he organized the Pontotoc mill in 1904. He was also president of the Bank of Pontotoc and operated farming interests. Survivors include his wife; six daughters, Mrs. W. T. Burton of Oklahoma City, Okla., Mrs. W. M. Willey of Bowling Green, Ky., Mrs. Stark Weatherall of Tupelo, Miss., and Mrs. Doyle Lyon, Mrs. B. E. Furr and Mrs. W. B. Furr of Pontotoc.

Rowlett Ginner Is Best Dallas County Farmer

James E. Coyle, Rowlett, Texas, ginner and cotton farmer, was named Dallas County's "farmer of the year" by the Dallas Agricultural Club at a luncheon Dec. 18. He received a plaque for having "Made Outstanding Contributions to Agriculture in 1950." As a member of the club explained:

"Ed Coyle is showing the way to a sound, permanent agriculture on the blacklands, mixing cotton with cattle, growing cotton on land suited to cotton, rebuilding worn cotton lands with grasses and legumes, balancing with livestock. He terraces, plants biennial clovers, plans his soil work, follows his plan, stays ahead of the rest. He has a well-rounded, coordinated program if I've ever seen one."

It was the Dalworth Soil Conservation District which nominated Coyle for his work in rebuilding worn out land. Starting with 60 acres shortly after 1900, he now has 3,551 acres of fine farm land.

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Better Insect Control Needed

(Continued from Page 15)

too much acreage; and (6) failure to repair and care for dusters.

• **Airplane Spraying and Dusting**—S. L. Calhoun, entomologist with the Bureau of Entomology and Plant Quarantine at Stoneville, Miss., told the conference that spraying of insecticides with airplanes has given control of cotton insects equal or superior to dusts.

Although it had been argued that dusts are more effective at time of boll weevil migration than sprays, Dr. Calhoun said this statement has no foundation, based on three years' tests in Mississippi where sprays have been used throughout the season with equal success.

The same make planes are used for applying sprays as those listed for dusts. Although dust distribution is more effective where heavier biplanes are used instead of monoplanes, with sprays the light monoplanes have been found equally efficient, the entomologist declared.

"Because of the necessity for both spraying and dusting planes," Calhoun said, "some manufacturers have begun development of duster-sprayer combinations." He said that tests with one experimental model made available to the Delta Branch Experiment Station proved that the idea of a dual purpose plane was basically sound and the consensus was that this combination plane would do the job of dusting and spraying creditably.

• **United Effort Needed**—Eight steps the cotton farmer should take in an all-out effort to produce the quantity and quality of cotton needed in "the coming critical" months were outlined at the conference by Dr. F. C. Bishopp, Washington, assistant chief of USDA's Bureau of Entomology and Plant Quarantine.

He advised cotton producers to: (1) select a good variety of seed approved for the area; (2) prepare the soil properly; (3) fertilize adequately; (4) plant uniformly and reasonably early; (5) cultivate frequently and properly; (6) use approved insecticides and apply them properly at recommended times; (7) pick early, then as long before frost as possible, cut the old cotton stalks and plow them under; and (8) follow a good crop rotation policy.

Only by effective, united effort can farmers meet their production goal, the speaker emphasized, declaring that "defense of our nation will demand full cooperation in the production of bountiful crops of food, fiber and feed."

Since a number of the most effective insecticides for controlling cotton pests are highly poisonous, Dr. Bishopp stressed the importance of following recommendations explicitly to avoid contamination of adjacent food or feed crops or pastures, to avoid the killing of pollinating insects such as bees, and the possible poisoning of persons applying the insecticides.

"Every farmer can help in producing a bountiful cotton crop," Dr. Bishopp declared, "by determining the abundance of insect pests in his cotton, by understanding the seriousness of the insect problem, and by doing what is best to control it."

• **The Pink Bollworm Menace**—Continuation of rigid control of pink bollworm is urgent in order to prevent spreading of this pest to the major cotton producing states of Mississippi, California, Arkansas, Alabama, Georgia and the Carolinas, L. F. Curl told the conference delegates.

On account of a disastrous spread of the pink bollworm during the 1950 season many of the gains in controlling the parasite in the past decade were lost, he said. Curl is division leader, Division of Pink Bollworm Control, Bureau of Entomology and Plant Quarantine, San Antonio, Texas.

Describing the serious infestation in Texas this year, Curl emphasized that "it is essential to continue the control program, first in order to enable the Texas growers to produce cotton profitably, and second, to prevent the indiscriminate movement of untreated products into and throughout remaining cotton areas of the U.S. not yet infested with the pink bollworm."

The entomologist explained that unfavorable conditions for stalk destruction (a pink bollworm control measure) occurred in the fall of 1949, not only in the Lower Rio Grande Valley but even to a greater extent in Nueces County, Texas. This resulted in what should have been only a slight delay in stalk destruction becoming an extended delay, involving the production of a top crop on cotton in Nueces and adjacent counties.

"Over-wintering pink bollworms were allowed to develop in this late crop of cotton bolls and literally millions of pink bollworms went into hibernation. Hibernating worms completed their life cycle in the spring of 1950 and infestations developed very early in Nueces County over an extensive area. Over 75 percent of the fields examined early in the season showed blooms infested. Reinfestations built up as the season progressed and resulted in a spread of pink bollworm to

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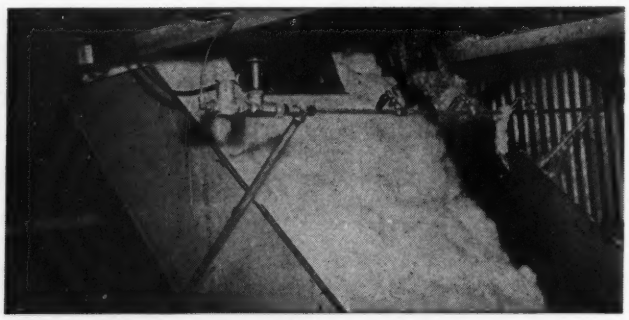

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some 22 south Texas and central Texas counties, seven northwest Texas counties, four southwestern Oklahoma counties and a number of parishes in southwestern Louisiana."

• **Pink Bollworm Conference in January**—W. E. Anderson, Louisiana's commissioner of agriculture and immigration, discussed the return of the pink bollworm to his state this year after an absence of several years and urged that a conference be called to work out recommendations on a program to control the pest. His suggestion won immediate approval and the conference will be held at Memphis on Jan. 11. Expected to participate are state commissioners of agriculture, plant quarantine officials, cotton producers, cottonseed crushers and ginners.

• **Defoliation and Insect Control**—Defoliation is more efficient where cotton insects have been controlled up to the time of application, a noted physiologist told the conference.

Describing how defoliation and insect control are inter-related, Dr. W. H. Tharp, Washington, noted at the same time that defoliation at the end of the season is helpful in controlling pests.

Dr. Tharp is principal physiologist, Division of Cotton and Other Fiber Crops, Bureau of Plant Industry, Soils, and Agricultural Engineering.

The scientist explained that "any insect, plant disease or physiological condition that prevents fruiting buds from developing into mature bolls will retard earliness and limit efficiency of the defoliation practice."

"Plants that have set no bolls will not defoliate," he said, "and it matters little whether it is a plant too young for boll set or one that has been growing vigorously all summer yet—due to insect infestation—has been prevented from setting bolls. A plant with its vegetative growth slowed down or stopped and its entire growth used to mature bolls will defoliate efficiently," he noted.

Outlining defoliation benefits in insect control, Dr. Tharp said boll weevils leave defoliated fields, that subsequent infestation is checked and that damage from late aphid and leafworm infestations is reduced.

"Since defoliation permits earlier harvesting and subsequent stalk disposal, it serves to lessen weevil carryover and assists in pink bollworm control. Therefore, any failure to control the insects that could prevent timely and complete reproductive maturity of the cotton plant would be the cause of unsatisfactory defoliation and thus place a severe limit on the manner in which defoliation may be used as a measure of insect control," he continued.

Cotton farmers should focus their attention on making their crop early, the speaker emphasized, noting that in each of the major cotton areas there is some penalty for lateness in excess of any loss in yield. "You are all well aware," he said, "that in the Southeast the late crop is the one most subject to loss from insect attack."

"Of equal concern," he pointed out, "is the late season weathering which may cause sufficient deterioration to warrant eventual abandonment of some acres. It becomes of utmost importance to concentrate on the crop as it is initiating its first buds.

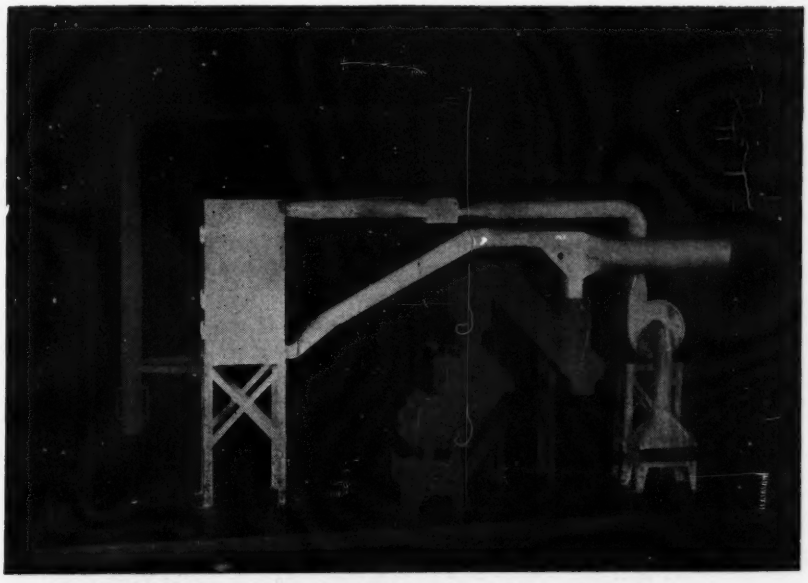
"The cotton fleahoppers and other insects that may knock off the first squares must be controlled for earliest possible production. Otherwise, the plant continues in a highly vegetative state. It becomes rank and leafy before heavy fruiting starts and eventually becomes an invitation to the severest types of boll rots and boll weevil infestations."

• **Weather Forecasts and Cotton Production**—More effective use of weather forecasts by cotton farmers in such operations as insect control, defoliation, fertilization, chemical weed control and irrigation is the objective of a Belt-wide program described at the conference by C. B. Carney, meteorologist of the U.S. Weather Bureau. He told delegates that, to afford maximum assistance in helping to produce a 16-million-bale crop in 1951, "a committee on better utilization of weather forecasts by cotton producers has been formed to assist in planning agricultural weather services to meet cotton's needs."

This committee consists of representatives from the Department of Agriculture, the National Cotton Council and the Weather Bureau. In addition, close working arrangements are being increased through the assistance of state extension services, experiment stations and other agencies.

Citing insect control as a phase of cotton production greatly aided by use of weather reports, Carney said that forecasts can determine the time and method of application best suited to the weather.

• **Control Recommendations**—A detailed guide for farmers in controlling cotton insects was released at the close of the conference when entomologists repre-



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senting many of the major cotton states presented pest control recommendations for their respective states.

Released at the same time was a set of tentative general recommendations for the control of boll weevil, bollworm, aphid, thrips and pink bollworm. This guide was prepared by state and federal entomologists who met in Memphis for three days prior to the conference.

• **Higher Yields Through Cooperation Effort**—How small cotton farmers united in Texas to carry out an insect control program which netted them higher yields and greater profits was detailed at the conference by L. J. Cappleman of Dallas, Texas state director of Farmers Home Administration.

• **Results of Experiments Described**—Entomologists from the Southeast, Mid-South, Southwest and Far West described experiments which emphasized that even though 1950 was one of the worst insect years in history, cotton farmers who followed a sound control program still produced high yields. Taking part in this discussion were C. M. Beckham, Georgia Agricultural Experiment Station; R. C. Gaines, Tallulah, La., BEPQ; H. G. Johnston, Texas A. & M. College; and K. P. Ewing of Waco, Texas, who read a paper prepared by W. A. Stevenson, BEPQ, Tucson, Ariz.

J. S. Hall, Early Texas Ginner, Dies Dec. 13

J. Sid Hall, 81, pioneer ginner in Bee and San Patricio Counties, Texas, died at his home in Beeville Dec. 13. He had been in failing health for seven months and had recently undergone two operations at Rochester, Minn.

Merchant, banker and businessman, Hall became interested in ginning shortly after 1900 and purchased and operated a number of gins in the Beeville area.

Survivors include his wife and three sons, J. S. Hall, Jr., of Mathis, Texas, and Henry W. Hall and Monte Hall of Beeville.

And They Talk About Texas Bragging!

With the typical Californian's consideration for those who are not fortunate enough to live in that state, R. D. Ryan declined to be quoted on his area's cotton production when he was visiting in this publication's office this week.

However, Ryan, who is mill superintendent for the Producers Cotton Oil Company, Fresno, did admit that the San Joaquin Valley has a "perfect setup for cotton" because the weather is never too cold and water by irrigation is always available at the right time. One of the Valley's chief assets, he said, is that the land can be converted quickly from one crop to another because of the ideal weather conditions. Producers there don't talk about less than three bales to the acre, he admitted, and a 600 acre farm is a mere "patch."

Ryan went to Fresno 16 years ago to stay one year, he said, and "got so busy I didn't have time to leave."

Cotton Council Names 1951 Committees

Appointment of 55 cotton leaders to five major committees charged with developing the National Cotton Council's industry-wide program for 1951 was announced this week by Council President Harold A. Young.

The committees are scheduled to meet in Biloxi, Miss., on Jan. 20, preliminary to the Council's thirteenth annual meeting there Jan. 22-24. They will develop programs in the fields of sales promotion, utilization research, production and marketing, foreign trade, and margarine legislation.

"In this period of national crisis the Council's program assumes greater importance than ever before," Young declared. "Cotton is second only to steel as a vital war and defense commodity. It is the obligation of our industry to meet the requirements of the defense program and to provide the fiber and seed essential to our civilian economy and to our nation's allies. We must plan our activities and programs to the end that cotton will be able to meet all of its obligations."

Recommendations developed by the program committees will be submitted to the full membership of the Council for action during regular convention sessions.

Committee appointments are:

Sales promotion: Harry S. Baker, Fresno, Calif., chairman; E. H. Agnew, Anderson, S. C.; W. N. Banks, Grantville, Ga.; N. C. Blackburn, Memphis, Tenn.; J. Walter Hammond, Tye, Texas; W. P. Lanier, Atlanta, Ga.; J. C. Rapp, McGehee, Ark.; J. M. Reeves, New York, N. Y.; Charles W. Shepard, Jr., Gadsden, Ala.; and J. Craig Smith, Sylacauga, Ala.

Utilization research: Walter L. Randolph, Montgomery, Ala., chairman; Alonzo Bennett, Memphis, Tenn.; Harry B. Caldwell, Greensboro, N. C.; R. V. Davis, Dawson, Texas; A. L. Durand, Chickasha, Okla.; Norman E. Elsas, Atlanta, Ga.; M. Earl Heard, Shawmut, Ala.; Charles C. Hertwig, Macon, Ga.; Burris C. Jackson, Hillsboro, Texas; Judge M. R. Rowland, Caruthersville, Mo.; Fred W. Symmes, Greenville, S. C.; and H. L. Wingate, Macon, Ga.

Foreign trade: S. Y. West, Memphis, Tenn., chairman; C. A. Bertel, New Orleans, La.; C. A. Cannon, Kannapolis, N. C.; W. B. Coberly, Los Angeles, Calif.; Hugh M. Comer, Sylacauga, Ala.; William D. Felder, Dallas, Texas; Lamar Fleming, Jr., Houston Texas; W. O. Fortenberry, New Deal, Texas; L. W. Frick, Arvin, Calif.; P. E. Harrill, Oklahoma City, Okla.; Walter S. Montgomery, Saprtanburg, S. C.; Caffey Robertson, Memphis, Tenn.; R. E. Short, Brinkley, Ark.; C. C. Smith, Greenwood, Miss.; and Leonel Weil, Montgomery, Ala.

Production and marketing: C. R. Sayre, Scott, Miss., chairman; C. L. Andrews, Memphis, Tenn.; D. W. Brooks, Atlanta, Ga.; Robert R. Coker, Hartsville, S. C.; Cecil H. Collerette, Casa Grande, Ariz.; A. B. Emmert, Danville, Va.; Garner M. Lester, Jackson, Miss.; S. R. Nichols, Des Arc, Ark.; George A. Simmons, Lubbock, Texas; C. D. Tuller, Atlanta, Ga.; and A. K. Winget, Albermarle, N. C.

Special committee on margarine legislation: C. G. Henry, Memphis, Tenn., chairman; J. H. Henry, Melrose, La.; C. P. Key, Lodge, S. C.; John F. Moloney, Memphis, Tenn.; Irvin Morgan, Jr., Farmville, N. C.; Paul T. Truitt, Washington, D. C.; and H. G. Thompson, Bakersfield, Calif.

Georgia Ginners to Meet March 4-5 in Atlanta

Members of the Georgia Cotton Ginners' Association will hold their 1951 convention in Atlanta, Ga., on March 4 and 5, President Warren B. Hodge, Unadilla, has announced.

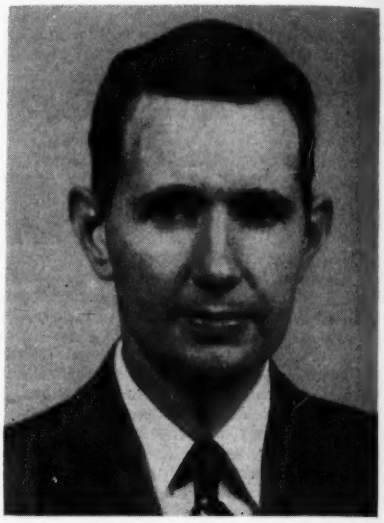
Convention headquarters will be at the Henry Grady Hotel.

• Approximately 90 percent of all the farms and ranches in Texas now have central station electric service.

Dr. R. J. Jones Returns to Oklahoma A. & M.

Dr. Randall J. Jones, Starkville, Miss., will become associate dean of agriculture and associate director of the Agricultural Experiment Station at Oklahoma A. & M. College, Stillwater, on Jan. 1, Dean of Agriculture W. L. Blizzard has announced.

Dr. Jones will succeed Dr. Hilton M. Briggs, who resigned in August to become dean of agriculture at the University of Wyoming. Dr. Jones has been associate director of the Mississippi State College agricultural experiment station since 1949. He was chief in Tennessee Valley Authority's branch of soils and fertilizer research during 1944-49.



DR. RANDALL J. JONES

No stranger to Oklahoma, Dr. Jones was reared on a farm near Gould, Harmon County, graduated from Cushing high school, and received a B. S. degree from Oklahoma A. & M. in 1936. He received M. S. and Ph. D. degrees at the University of Wisconsin in 1937-39.

Automatic Cotton Sampler Developed by USDA

A mechanical cotton sampler that automatically collects lint during ginning and packages a cross section of bale into a true sample has been developed by USDA.

The sampler diverts small amounts of cotton flowing through the gin lint flue at six periodic intervals during ginning of a bale and presses and packages this cross section of bale contents into an actual sample, which carries the same identification as the bale from which it was taken. The device is entirely automatic and re-sets itself to repeat the process for each bale ginned.

The new sampler was developed at the Production and Marketing Administration cotton laboratory, Stoneville, Miss. A complete account of the mechanical sampling device is contained in a report entitled "The Sampling of Cotton Bales as Related to Marketing," copies of which are available from the Information Branch, Production and Marketing Administration, Washington 25, D. C., upon request.

CALENDAR

Conventions • Meetings • Events

• January 8-9, 1951— Texas Cotton Ginners' Association officers and directors annual meeting with representatives of allied groups. Baker Hotel, Dallas, Texas. Jay C. Stilley, 109 N. 2nd St., Dallas, Texas, executive vice-president.

• January 9-10, 1951—Louisiana Insect Control Conference, Bentley Hotel, Alexandria. For information, write Rudolph G. Strong, Assistant Extension Entomologist, Louisiana Extension Service, Baton Rouge.

• January 11, 1951—Pink Bollworm Conference. Peabody Hotel, Memphis, Tenn. For information write the National Cotton Council, P.O. Box 18, Memphis, Tenn.

• January 11-12—Fifth Annual Beltwide Cotton Defoliation Conference. Hotel Peabody, Memphis, Tenn. Sponsored by National Cotton Council, P. O. Box 18, Memphis 1, Tenn.

• January 22-23-24, 1951—National Cotton Council annual meeting. Hotel Buena Vista, Biloxi, Miss. Wm. Rhea Blake, P. O. Box 18, Memphis 1, Tenn., executive vice-president-secretary.

• January 30-31 — Carolinas Ginners' Association annual convention. Armory, Bennettsville, S. C. Louis G. McGill, Bennettsville, executive secretary.

• February 1-2, 1951—Oklahoma Cotton Ginners' Association annual convention, Skirvin Tower Hotel, Oklahoma City, Okla. Horace Hayden, 1004 Perrine Bldg., Oklahoma City, secretary.

• February 5-6, 1951—Texas Cooperative Ginners' Association annual convention. Blackstone Hotel, Fort Worth, Texas. E. M. Cooke, Georgetown, Texas, secretary-treasurer.

• February 19-20—National Agricultural Aviation Conference, Hotel Peabody, Memphis, Tenn. Charlye Rose, Roseland, Ark., program chairman.

• March 4-5, 1951—National Cotton Ginners' Association annual convention. Peabody Hotel, Memphis, Tenn. Horace Hayden, 1004 Perrine Bldg., Oklahoma City, Okla., executive vice-president.

• March 4-5, 1951—Georgia Cotton Ginners' Association annual convention. Henry Grady Hotel, Atlanta, Ga. Warren B. Hodge, Unadilla, Ga., president.

• April 2-3-4, 1951—Texas Cotton Ginners' Association annual convention. Fair Park, Dallas. Jay C. Stilley, 109 N. Second Ave., Dallas, executive vice-president. For exhibit space, write R. Haughton, president, Gin Machinery and Supply Association, P. O. Box 1444 (3116 Commerce St.), Dallas 1, Texas.

• April 9-10, 1951—Valley Oilseed Processors Association annual convention. Buena Vista Hotel, Biloxi, Miss. C. E. Garner, 1024 Exchange Bldg., Memphis, Tenn., secretary.

• May 1-3, 1951—American Oil Chemists' Society spring meeting. Roosevelt Hotel, New Orleans, La. H. L. Roschen, Swift & Co., Chicago, Ill., secretary.

• May 14-15-16, 1951—Fifty-fifth Annual Convention, National Cottonseed Products Association. Palm Beach Biltmore Hotel, Palm Beach, Fla. S. M. Harmon, Sterick Bldg., Memphis, Tenn., secretary-treasurer.

• June 3-4-5, 1951—Joint convention North Carolina-South Carolina crushers' associations. The Cavalier, Virginia Beach, Va. Mrs. M. U. Hogue, 612 Lawyers Bldg., Raleigh, secretary of North Carolina Association; Mrs. Durrett L. Williams, 609 Palmetto Bldg., Columbia, secretary of South Carolina Association.

• June 4-5, 1951 — Arkansas-Missouri Ginners' Association annual convention. Arlington Hotel, Hot Springs, Ark. J. W. Karsten, Jr., Kennett, Mo., executive vice-president-secretary-treasurer.

• June 4-5, 1951—Oklahoma Cottonseed Crushers' Association annual convention. Lake Murray Lodge, Ardmore, Okla. Horace Hayden, 1004 Perrine Bldg., Oklahoma City, secretary.

• June 14-15, 1951—Mississippi Cottonseed Crushers Association annual convention. Hotel Buena Vista, Biloxi, Miss. J. A. Rogers, P. O. Box 3581, West Jackson Sta., Jackson, Miss., secretary.

• June 18-19, 1951—Joint convention Alabama-Florida Cottonseed Products Association and Georgia Cottonseed Crushers' Association. San Carlos Hotel, Pensacola, Fla. T. R. Cain, Professional Center Bldg., Montgomery 4, Ala., secretary of Alabama-Florida association; J. E. Moses, 318 Grand Theatre Bldg., Atlanta 3, secretary of Georgia association.

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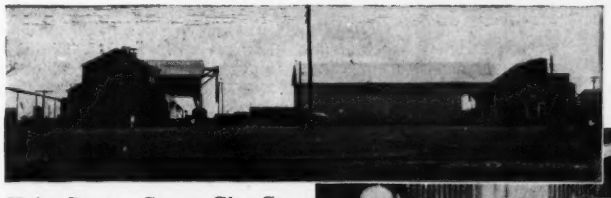

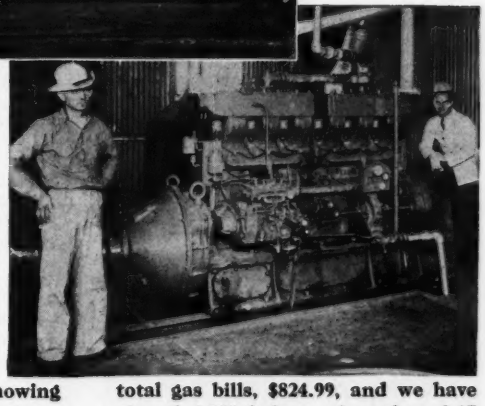

Hale Center Co-op Gin Co., Hale Center, Texas, replaced steam equipment when the 1947-48 ginning season closed. Mr. Luther Goode, Manager, says, "We checked on all types of engines and decided to install one of your Model 6-LRO (8½" *bore x* 8½" *stroke,* 2894 *cu. in. displacement*) Waukesha Engines. Installation was made completely by members of this Co-op gin and no expensive outside labor was necessary... showing how time for off-season in our work can be used. The engine was operated on natural gas at all times. In addition we heated engine room, a large shower room and operated a 1,500,000 Btu. drier all on the same meter. Our total gas bills, $824.99, and we have ginned 4,833 bales... less than $.17 per bale for gas to operate everything. Engine itself operated for less than $.20 per bale for fuel, oil and necessary other expense."

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Solvent Extraction of Cottonseed

(Continued from Page 11)

understanding and engineering evaluation of the process.

• **Storage**—Alderks (1) pointed out that the storage of cottonseed, a very perishable commodity, in most producing areas is one of the most important phases of cottonseed processing. To illustrate its importance to the profits of the oil miller he considered the case of one 4,000-ton lot of seed in storage which had been purchased at the base price of $56.00 per ton. He stated that a rise in free fatty acids of the oil amounting to 1% results in the reduction in value of oil to the processor as follows: in seed containing 2% FFA as received, about $00.63 per ton, or a total of $2,520; in seed above 3% FFA as received, about $00.84 per ton, or a total of $3,360. Stansbury (27) reported that experimental cottonseed samples may be stored for more than a year without appreciable change in total nitrogen, total oil, free fatty acid content, iodine or peroxide number of the oil, or catalase activity of the kernels by drying to a moisture content of 8.3% or lower, placing in sealed containers, and storing at 1° C. or below and that under this type of storage at room temperature a small increase in the FFA content of the oil occurs. Altschul (2) investigated the chemical treatments of seeds to prevent heating and deterioration during storage and stated that chemical pretreatment of seeds prior to storage may ultimately be applied to large-scale bulk storage of certain types of seeds as a means of reducing or preventing deterioration.

• **Preparation**—The purpose of seed preparation is to present the feed material to the extractor in condition for the maximum and most economical extraction of the oil and the production of the highest quality oil and meal. Karnofsky (15) noted that the proper preparation of the seeds for extraction is perhaps the most important operation in the process. Gastrock (12) recognized that no single step is as important as the correct preparation of the material for extraction. This is particularly true in the case of the higher oil content cottonseed, with its tendency to form flakes of low stability (1, 7) and its unique content of pigment glands (6). In discussing the formation of fines from low stability flakes, Bonotto (7) stated that with such material as cottonseed such exacting and costly operating conditions are required to produce flakes without fines that any equipment which has difficulty in handling fines may be considered a technical and economic failure when called upon to process such difficult seed.

Factors which have been considered in investigating the preparation of seed for extraction include the size and thickness of the flake, the moisture content of the seed prior to flaking and of the flake prior to extraction, and the degree of cooking prior to extraction. Bonotto (7) brought out that for a given material the production of "fines" is inversely proportionate to the thickness of the flakes if the percentage of moisture remains the same. Moore (20) investigated three methods of preparation prior to extraction: (1) cooked meats as prepared for the hydraulic presses; (2) raw meats as they come from the rolls before going to the cookers; (3) meats that were cooked in the pressure cookers before rolling. He reported that the best extraction was obtained on cooked meats as prepared for hydraulic pressing, that raw flaked meats gave almost as good results as the rolled and cooked meats, and that the extraction of the cooked and rolled meats was not satisfactory.

Reuther (25) reported the development of laboratory procedures to determine the percolation and disintegration characteristics of cottonseed flakes. He has investigated the effect of the moisture content of delinted cottonseed on the preparation of flakes having relatively few fines and allowing the ready percolation of solvent. He has found that 9 to 10% moisture in the meats is the best level for preparation of cottonseed for extraction. He stated that at lower moisture the flakes contain more fines before

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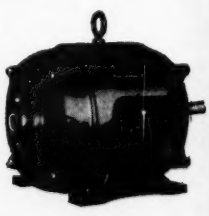

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and after agitation in solvent, the percolation rate of solvent through a flake bed is lower because of reduced particle size and the extractability may be slightly lower, and that at higher moisture the flakes produce more fines and the percolation rate becomes slower because of the softness and pliability of the flaked meat.

• **Extraction**—The extractor proper is the heart of the solvent extraction process where the flaked meats and solvent are intimately contacted to permit leaching of the oil from the meats and the resulting miscella (oil-solvent mixture) is separated from the extracted meal. The extractor must be designed and operated for the feed material being processed to obtain the maximum extraction of the oil from the meats. Reuther (25) lists suitable extractor design, along with the nature of the feed material, as the main consideration in the solvent extraction of a material. Among the factors involved in the design and operation of an extractor are the physical and chemical characteristics of the feed material, the nature and temperature of the solvent, the tendency of the extractor to produce, and the ability to handle, fines, the solvent-meal ratio, the meal residence time in the extractor, the relative direction of flow of the solvent and solids, and the number of extraction stages.

Goss (11) stated that the design and developing of methods for operating extraction apparatus seem to have progressed, by rule of thumb methods, considerably faster than has the application of the laws of diffusion and extraction for determining the proper size of apparatus and optimum operating conditions. He described in detail certain types of extractors which have been used for the extraction of oilseeds. In discussing the mechanics of solvent extraction Karnofsky (15) classified extractors as immersion-type in which the solids are agitated in the solvent and percolation-type in which the solvent is run through fixed beds of solids. Gastrock (12) reported the installation of a complete experimental pilot plant for studying the continuous solvent extraction of oilseeds. He found that it was advantageous to extract at a temperature of 130° F. when using commercial hexane and that the solvent ratio can be used to control final

(Continued on Page 30)

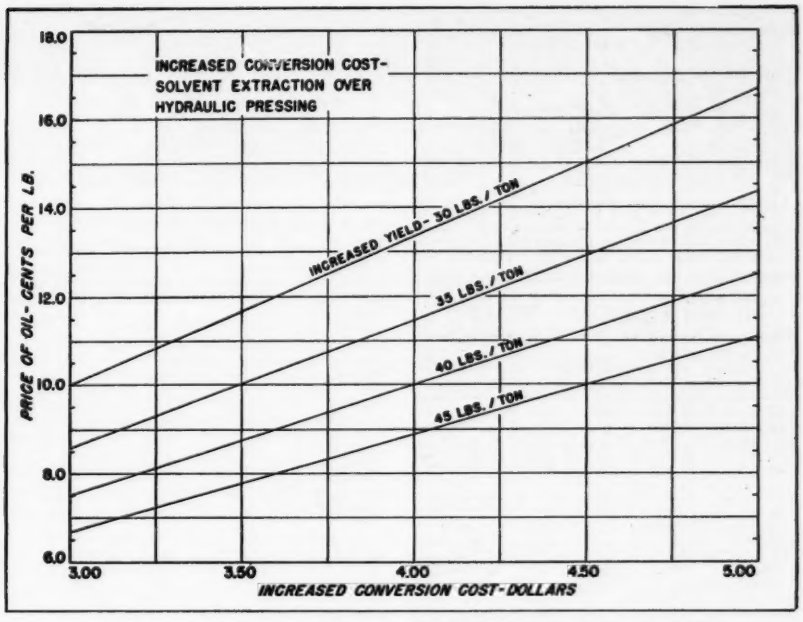

Fig. 3—Boiling points. Crude cottonseed oil—commercial hexane mixtures.

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OIL MILL MACHINERY FOR SALE: Cookers — Pumps — Presses — Cylinders — Heads — Columns — Trimmers — Formers — Accumulators — Hydraulic Pumps — Hot Cake Cutters and Strippers — 106 Saw Linters — Cake Bin Feeders — Filter Presses, 32x32 with 49 plates — Electric Motors, 15 to 150 h.p. with starters — Shaft Coupling and Pulleys — Reitz Disintegrators with 75 h.p. motor — 36" Chandler Huller — Small Set Crimping Rolls — 2 Sets Cracking Rolls — 1 Set 60" Crushing Rolls — Post and Pillow Block Ball Bearings —Conveyor Heads and Hangers — Enclosed Right Angle Drives — Elevator Belts, Buckets, Sprockets and Chain — Large Steel Seed Reel — Carver Lint Tailing Beater and Shaker — Brust Grabbot Machines.—Write, wire or phone Sproles & Cook Machinery Co., Inc., 151 Howell Street, Dallas, Texas. Telephone PRospect 5958.

WE WELCOME this opportunity to lay aside the cares of business—the buying and selling of machinery—long enough to convey our sincere wishes that yours will be a HAPPY HOLIDAY SEASON. Cordially yours, V. A. Lessor & Co.—Oil Mill Machinery—Fort Worth, Texas.

FOR SALE—One French former in good condition, $800.00—Cuero Oil Mill, Cuero, Texas.

FOR SALE—One—W. S. Tyler Co. Niagara Vibrating Screen style 100, serial number 8198. Two —Richmond Manufacturing Co. Niagara Super Sifters No. 4 x 10, serial numbers 21749 and 21750. All equipment offered subject to prior sale.—Address: Archer-Daniels-Midland Company, 600 Roanoke Building, Minneapolis 2, Minnesota.

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150 hp. 3/60/440/720 rpm, squirrel cage
125 hp. 3/60/440/900 rpm, slip ring
125 hp. 3/60/2300/900 rpm. squirrel cage
125 hp. 3/60/440/900 rpm. slip ring
100 hp. 3/60/2300/900 rpm, squirrel cage
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CHRISTMAS GREETINGS to my Friends and Clients. Wishing you all a very Merry Christmas and a Happy New Year.—Sincerely, M. M. Phillips.

FOR IMMEDIATE SALE—Several of the best gins in South Texas and Rio Grande Valley. Gins that should gin their capacity in 1951. One new 4-90 Murray, one new 5-90 Murray, one 5-80 Murray built in 1945, one 5-80 Hardwick-Etter about 10 years old, one new 5-80 Gullett. These are all good buys, well located and should net their cost in two years operation. Gins will be harder to buy next year. Now is the time to act if interested.—See, call or wire M. M. Phillips, phones 3-1171 or 3-3914, P. O. Box 1288, Corpus Christi, Texas.

FOR SALE—Four all steel Lummus 80 saw gin stands with cleaner feeders and six drum overhead cleaner all about ten years old, but look like new. —Grenada Oil Mill, Box 1125, Grenada, Miss.

FOR SALE—4-stand gin outfit, or any part of it, with or without 100 h.p. Diesel engine. North Texas location. Machinery includes gins, right hand lint flue, Continental Model "40" steel condenser F.E.C. Mitchell Extractors, 14-foot steel Bur extractor with steel after-cleaner. Hardwicke-Etter flat screen steel separator, 16-foot 9-inch screw elevator, good sound wood press with steel bound doors, hinged in metal, with steel top and bottom sills, late type ram and casing and vertical belted hydraulic pump, fans, ball bearing line-shaft, clutches, transmission and conveying equipment air-pipe, etc. Reasonable price, complete, or any part.—R. B. Strickland & Company, 13-A Hackberry Street, Box 703, Tel. 2-8141, Waco, Texas.

FOR SALE—Modern Murray 5-80 gin plant, with electric motor power, ample cleaning, extracting equipment. Gin house, cotton house, hull disposal facilities, seed house and office building with new 34' truck scale, 300 square foot lot on railroad siding. Located in South Plains town. West Texas. Town ginned 22,000 bales 1949; approximately 11,000 bales, 1950. For immediate sale. Unlimited ginning expected 1951.—Write Box LGC, c/o Cotton Gin and Oil Mill Press, P. O. Box 444, Dallas, Texas.

FOR SALE—One 10 ft. Lummus bur machine, wood frame, in good condition.—W. H. Ritchey, Haslet, Texas.

FOR SALE—Gin plant—4-90 saw Murray gins and lint cleaner. Mitchell Special Super Unit feeders. New Lummus thermo-drier and cleaner. 20 miles north of Lubbock. — Cunningham Gin, Phone 36. Abernathy, Texas.

FOR SALE—1—1948 model 4-80 saw Continental gin outfit with new prefabricated steel gin building. This outfit is complete, including one (1) UD-24 International power unit with all accessories. Outfit is equipped with latest model drying, cleaning and extracting equipment and is in excellent condition, practically same as new.—Address all inquires to Robert Edgar Long, Milledgeville, Ga.

FOR SALE—1 Centennial gin 4-80, with belt distributor, 4 Continental huller, cleaner, feeders, 2 Centennial presses, condenser, 75h.p. electric motor (slip ring) located Fort Valley, Georgia. Price, complete (to be removed by purchaser) $1,250.00. Will sell separate items.—Inquire Trust Department, First National Bank, Macon, Georgia.

FOR SALE — 4-60 inch standard Mitchell units, press steel type with v-belt drives. Feeders have ginned less than 1500 bales.—J. G. Laney, Tallassee, Alabama.

SPECIAL BARGAIN FOR IMMEDIATE SALE—Brand new 4-80 Continental, modern throughout, deisel power, cotton house, seed house, two extra good residences, all on 40 acres of land in irrigated area of South Texas. All for $60,000 with terms. Ideal gin point and will gin capacity in 1951.—Call, See or Write M. M Phillips, Phones-3-1171 or 3-3914, P.O. Box No. 1288 Corpus Christi, Texas.

FOR SALE—Two 8" x 9" six cylinder Twin City engines. One clockwise and one counter-clockwise. Both in good condition.—W. H. Ritchey, Haslet, Texas.

FOR SALE—Two 10 ft. Hardwicke-Etter wood frame bur machines. One left hand and one right hand. Both in good condition, and have never been used in sand.—W. H. Ritchey, Haslet, Texas.

FOR SALE—4 Continental Air blast gin stands only, in first class condition. Replacing with new style lint gin outfit, reason for selling. Used three seasons.—Johnson and McHugh, Orrville, Ala.

GOVERNMENT type dryers delivered and erected in your gin plant. See advertisement on page 21 this issue.—Service Gin Co., P. O. Box 21, Ville Platte, La.

Equipment Wanted

WANTED—One double box press, four 66 inch Mitchell Super Units, one 4-80 conveyor distributor. One separator, one single box press. One each 50, 20, 25, 150 h.p. electric motors for 440 current, one 24 shelf tower drier. All must be in good condition. State condition, location and price.—Box "C.O.W." c/o Cotton Gin and Oil Mill Press, Box 444 Dallas 1, Texas.

Personnel Ads

GIN MANAGER—Available January 1st. Age 47. 17 seasons with gins. Good mixer. No booser. Cotton, grain buyer. All around mechanic. A-1 references.—Write Box "E", c/o The Cotton Gin and Oil Mill Press, P. O. Box 444, Dallas 1, Texas.

SALESMAN WANTED—Now calling on elevators, seed houses and allied business to carry our profitable line of specialty advertising plus a good reasonable line of scale tickets. Selling season just starting on most items.—Write today giving territory covered to Douglas L. Mains Company, Box 468, Quincy, Ill.

WANTED—Superintendent job of Oil Mill. Experienced. Reference furnished. Available January first. Will go anywhere. Address—Paul Carter, 306 South Delaware, Roswell, New Mexico.

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ALL STEEL BUILDINGS for cotton industry—warehouses, cottonseed houses and gin buildings. —Marvin R. Mitchell Construction Co., 1220 Rock Island, Dallas, Texas. Phone RA-5615.

FOR SALE—A steam sterilizer and conveyor complete. In excellent condition. Used one season. Will sell reasonable. For further information contact Northern Star Seed Farms, O'Brien, Texas.

FOR SALE—Caterpillar D-13000—Diesel Engine —complete with clutch, outboard bearing. Pulling five eighty gin. Too small now. Good condition, can be demonstrated.—Lane City Gin Co., Lane City, Texas.

FOR SALE—Four cylinder TIPS diesel engine 165 h.p. Now in operation, good running condition. Will sell cheap.—Granger Gin Co., Phone 25, Granger, Texas.

FOR SALE—Two International Diesel Engines: One U.D. 16—4 cylinder 60 h.p. with clutch and extended shaft. One U.D. 18—6 cylinder 100 h.p. with clutch, extended shaft to outboard bearing. Both perfectly cared for. Attractively priced.—Inquire Box 231—Beacon, N. Y.

FOR SALE—Five Continental gin stands, air blast, $850.00 each; five special super Mitchell extractors, $700.00 each; one 150 h.p. M-32E, 300 rpm Fairbanks engine with Medart clutch, pulley and leather endless belt, $4500.00 complete; one 120 h.p. M-32E, 360 rpm Fairbanks engine with v-belt drive, $3500.00; D-17 Caterpillar engine complete v-drive. New coil type cooling tower, $7500.00; one 5 stand Mitchell convevor, $350.00; one 5 stand lint flu, $100.00; All equipment in excellent condition—B. C. Gin Company, Leachville, Arkansas.

• Present indications point to a shortage of good cotton planting seed for 1951, cotton specialists warn.

Top Georgia Producer:

Hunnicutt Wins With 11 Bales on 5 Acres

■ Statesboro man's son is also a district winner in 1950 contest. Fertilizer and insect control pays off for leading producers.

With $3,500 in prizes awaiting them, Georgia's champion cotton growers gathered in Atlanta Dec. 14 for the annual meeting honoring winners in the state Five-Acre Cotton Contest.

Winner of the $500 first prize in the contest this year is A. S. Hunnicutt, Sr., Bulloch County, with a yield of 11 bales of cotton on five acres.

The state winner produced 15,093 pounds of seed cotton on his five-acre tract located in the city limits of Statesboro. He planted the crop April 3, using Coker's 100 Wilt variety. The fertilizer for the five acres cost $213, and expense of poisoning to control weevils and other insects amounted to $162. More than a ton of fertilizer per acre was applied to the prize-winning field. Twelve applications of poisons were needed to control insects.

Hunnicutt grew 20 acres of cotton this year with a yield of 32 bales. His son, A. S. Hunnicutt, Jr., is one of six district winners in the five-acre contest.

E. C. Westbrook, Agricultural Extension Service cotton specialist, announced that first-place winners in the other five districts in the state are John F. Hayes, Terrell County; Russell Prescott, Sr., Ben Hill County; Ora Scarborough, Elbert County; W. G. Legg, Jackson County; and Frank Greer, Henry County. All district winners received $250 awards.

Winners of other awards are W. P. and Julius Popwell, Sumter County; C. A. Vinson, Peach; Russell Prescott, Jr., Ben Hill; James Griffin, Brooks; Cluise Smith, Bulloch; M. C. Oliver, Screven; G. A. Smith, Butts; J. O. Maddox, Henry; William Wagner, Jasper; W. E. Hughes, Morgan; Dave Taff, Bartow; and P. F. Smith and William Massey, Bartow.

Agricultural leaders appearing on the program in Atlanta included the state winner and Dean and Director C. C. Murray of the University of Georgia College of Agriculture; Walter S. Brown, associate director of the Extension Service; J. E. Moses, secretary, and Homer G. Ray, president, Georgia Cottonseed Crushers Association, which sponsors the contest; and Bulloch County Agent Byron Dyer.

L. I. Skinner, assistant director of the Extension Service, awarded the state prize in the contest, and district agents from the Extension Service presented district awards. County agents accompanied winners to the meeting.

Westbrook explained that the contest has demonstrated three important rules in cotton growing in this section: one, it is necessary to fertilize the crop well; two, poisoning to control boll weevils and other insects is needed throughout the growing season; and three, it is necessary to grow cotton thick on the land and leave plenty of plants per acre.

J. Van Rogers III Arrives Dec. 4

A son, J. Van Rogers III, was born to Mr. and Mrs. J. Van Rogers, Jr., in Athens, Ga., Dec. 4. The proud father is Southeastern representative of the Educational Service, National Cottonseed Products Association, with headquarters at Atlanta, Ga.

Arkansas-Missouri Ginners To Meet June 4-5, 1951

Announcement that the annual meeting of the Arkansas-Missouri Ginners' Association convention next year will be held at Hot Springs, Ark., on June 4 and 5 has been made by J. W. Karsten, Jr., executive vice-president-secretary-treasurer of the association.

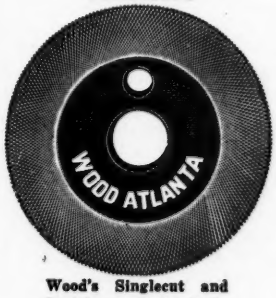
Headquarters hotel for the meeting will be the Arlington Hotel in Hot Springs.

William R. Elsas, Fulton Bag President, Dies

William R. Elsas, president of the Fulton Bag & Cotton Mills since Jan. 10 of this year, died at Tryon, N. C., Dec. 9 after a heart attack. Funeral services were held in Atlanta, Ga., Dec. 11.

He had been with Fulton 26 years and was the son of Benjamin Elsas, chairman of the company's executive committee.

DOUBLECUT



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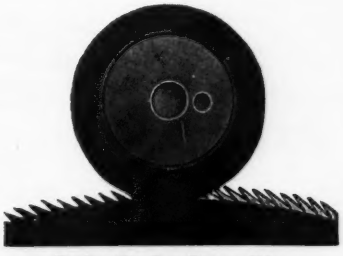

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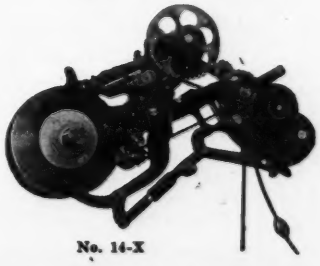

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Report from Europe

• Pennsylvanians, who say it originated in their state, may want to take issue with the Hollanders—but here, the latter will tell you insistently, is

THE TRUTH ABOUT BUNDLING

By JAY RICHTER
Washington Bureau, The Cotton Gin and Oil Mill Press.

STAPHORST, HOLLAND.

IT MAY BE stretching a point to try and tie in the fate of the U.S. cotton industry with the little farming village of Staphorst, a unique Dutch town where life has changed but little since the 17th century. But it's probably worth the effort, however strained. Wait until you hear more about Staphorst.

For one thing, it is the place, Hollanders insist, where the practice of bundling originated—and not in Pennsylvania, U.S.A., whatever loyal citizens of that state may say. Anyhow, about bundling in Staphorst. Let me quote directly from the notes handed me in Holland by a friend there who was anxious that the world should know the truth about bundling:

"Staphorst about 1,200 population. Protestant and very religious. Very little new blood allowed in town. Once a boy decides he loves girl, girl's family 'moves in' on romance. For six weeks thereafter, boy and girl see each other only at girl's bed. Her bed really a box in wall with two cupboard-type doors opening into bed, each door containing heart-shaped cutout.

"Well, each Saturday when boy arrives girl is dressed for bed no matter what time of day. Father stations self in chair near bed as boy-girl converse through cutouts.

"After maximum six weeks this sort of thing, if girl accepts boy, great preparations are made for following Saturday. Boy arrives in evening; everyone present. Father gives boy cup coffee and sandwich with egg (for strength). Then boy and girl go to shed where fire has been lit and straw spread. After eating, they hit hay.

"This goes on every Saturday night until boy is sure girl is bearing baby—then they marry.

"One story goes that boy decided, following such courtship, that he wanted no part of babies and such. Men of village brought recalcitrant boy before girl, asking him if he loved her. When he said no, they killed him before her eyes."

End of notes from friend.

The custom outlined above, and still practiced in Staphorst, got its start for economic reasons. Elders of the village won't permit hiring of farm hands, insisting that members of the family till the soil. Consequently, lads do not marry until there is positive proof their future wives are capable of keeping the farm supplied with children.

Over the years, Staphorst farms, handed down from fathers to children, have become broken up into small plots. The Jan Visser family, for example, has 20 dabs of land dotted over the landscape for miles in all directions.

With Marshall Plan aid, many of these scattered holdings have been consolidated with apparent good results. The land is now producing about 25 percent more than formerly.

Oh, yes, about that tie-up with the U.S. cotton industry. Take Mrs. Jan Visser for only one example among Staphorst's housewives: she wears seven skirts at a time.

It takes a lot of cotton for all those skirts, doesn't it?

Hendrikje and Hilltje Steegman, children of a Staphorst, Holland, family, are shown in a bed like those described in the story.

Solvent Extraction of Cottonseed

(Continued from Page 25)

per cent lipids in flakes, final miscella concentration, and to a certain extent the amount of fines carried over with the miscella.

In 1937, Meyerweissflog (19) brought out the importance of the solvent in the successful extraction of vegetable oil. MacGee (18) discussed the history and general chemical composition of vegetable oil extraction solvents. He stated that among the solvents that have been used may be mentioned benzene, methyl alcohol, ethyl alcohol, isopropyl alcohol, carbon disulphide, diethyl ether, ethylene dichloride, carbon tetrachloride, trichlorethylene and petroleum naphthas of different boiling ranges, including high test gasolines, mineral spirits, lacquer diluents, heptane fractions, and so forth. He gave twenty tables of physical data on a large number of solvents. Of these, commercial hexane is at present in general industrial use for the solvent extraction of cottonseed in the United States.

• **Clarification**—The clarification of the miscella is complicated by the tendency of the high-oil-content cottonseed to produce fines in the extractor. One solution to this problem is the proper preparation of the seed and the improvement of the mechanical and physical action in the extractor. With some processes (21) the resulting miscellas can be clarified by simple filtration. With other processes (20) the more complicated method of continuous centrifugation followed by filtration is necessary.

• **Crude Oil and Solvent Recovery**—The crude cottonseed oil and solvent are recovered from the miscella by evaporation and subsequent stripping. Pollard (23) investigated the boiling point-vapor pressure-composition relations for miscellas of cottonseed oil and commercial hexane (Figure 3) as a basis for the more exact design of evaporative equipment and the proper selection of temperature and pressure in plant operations for removing solvent from oil. He found that theoretical calculations of the boiling point-vapor pressure-composition relations will serve for miscellas containing up to 50% oil by weight but that with an oil content above 50% the deviations from the theoretical are appreciable. He states that with an oil content approaching 100%—the region where temperatures are high and control critical—theoretical calculations are altogether unsatisfactory and that the only data of value to guide the control of pressure, temperature, and time, are those obtained by careful experimentation. Vix (28) studied the effect of heat on cottonseed oil miscella in a practical approach to the problem of objectionable color fixation during heating and solvent removal operations. He found that color fixation can be held to a minimum when certain limits of temperature and holding time are observed in the handling of the miscella. He stated that cottonseed oils prepared with these precautions were refined to yield oils of prime color and that the finished oils were equal in quality to high-grade hydraulic-pressed oils.

• **Conditioning the Meal**—The final step in any solvent extraction operation is the desolventizing and preparation of the meal for sale. Here the solvent is completely removed from the meal by the application of moderate heat. A typical method (12, 20) is to move the meal by screw conveyors through a series of steam-jacketed dryers. The solvent vapor is condensed and returned to the system. The preparation of the meal depends upon the use and market for which it is intended. The primary use of the meal today is as a feed for cattle. Depending on the process that has been employed, the extracted meal may be ground and sacked immediately (21), or first toasted and then cooled, ground and sacked (1). For some markets pelleting is required.

Of particular interest is the gossypol content of the extracted meal. Harris (14) has suggested the removal of the gossypol from the defatted meal by a second extraction with a solvent, such as ethyl-ether. One plant is reported to have used commercial hexane in conjunction with methyl alcohol to produce a low gossypol-content meal. Castillon (8) reported an investigation of the oral toxicity of gossypol and cottonseed pigment glands. Boatner (5) investigated the nutritive value of cottonseed for chicks as affected by methods of processing and content of pigment glands. She concluded that all of the physiologically deleterious components of cottonseed are segregated in the pigment glands. This indicates the fundamental advantage of a process such as fractionation where the whole pigment gland is mechanically removed from the meal.

It has been pointed out that one economic advantage of the solvent extrac-

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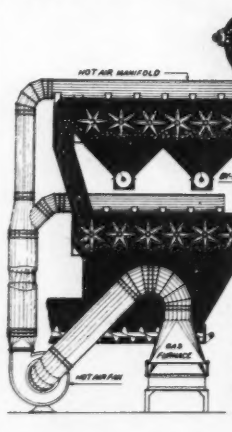

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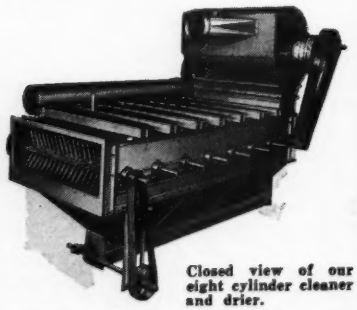

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tion process is that the removal of the oil from the cottonseed meats at low temperatures makes available meals containing unmodified and soluable proteins. However, these low temperatures must be maintained throughout the process, from the initial preparation of the feed material to the final conditioning of the meal. Dechary (9) noted that overcooking may lower the protein availability of the meal and that even though the meal will have the required protein content according to trading rules, the protein will have been rendered unavailable to the animal. Hamilton (13) discussed the nutritive value of the residues from oil extractions in terms of their constituent amino acids. He pointed out that the four amino acids which are most likely to be deficient are the ones which are most susceptible to destruction by heat and oxidation.

Conclusion

The introduction of solvent extraction to the cottonseed industry has made possible a higher recovery of oil and the production of a meal containing unmodified and soluable proteins which is a potential source of industrial proteins and of a highly nutritious meal for expanded animal and human consumption. Along with these advantages have come many complex economic and technological problems that must be solved before the full theoretical advantage of the process can be realized. The scope and importance of these problems, particularly in these times of rapid technological advances and increasingly competitive conditions, make this, indeed, a fertile field for research.

Acknowledgment

The authors wish to thank J. L. Hecker for preparing Figures 1 and 2, J. E. Hawkins for preparing Figure 3, and the Buckeye Cotton Oil Company for furnishing a photograph of its solvent extraction plant.

(A limited supply of reprints of this article is available. Copies may be obtained upon request to the Southern Regional Research Laboratory, New Orleans, La.)

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PMA - USDA Urges Farmers:

Order and Store Fertilizer And Insecticides Early

EVERY COTTON GROWER in the U.S. has received, or will receive within the next few days, a USDA Production and Marketing release urging him to order and store fertilizer and insecticides early for use in producing the 16 million bales set as a national production goal for 1951. The release is being distributed by PMA county committees throughout the Belt.

"Production of at least 16 million bales of cotton is needed in 1951," the release points out, "to take care of expanding defense requirements, needed domestic uses and exports, and to maintain a reserve supply at home. This means planting a considerably larger acreage of cotton than was planted in 1950, and planting it in accordance with good soil conservation and farm management practices."

Ginners and cottonseed crushers can aid materially in reaching the 1951 production goal by emphasizing to the farmers in their communities the following points brought out in the PMA release:

Efficient use of fertilizer and insecticides, along with the use of good planting seed, will go a long way toward helping grow the needed cotton in 1951.

The supply of fertilizer and insecticides is expected to be reasonably adequate if you as a cotton producer:

1. Buy and store as much as you can of your 1951 requirements as soon as possible, but don't buy more than you need.

2. Tell your local dealer what additional supplies you will need for your 1951 cotton crop if all needed supplies cannot be purchased immediately and stored.

If manufacturing plants are to produce their full capacity for 1951 use, both fertilizer and insecticides must move to dealers and farmers as soon as possible after they are made. You are urged to plan your 1951 farming operations with this in mind.

Briefly, here are the **facts!**

• Fertilizer:

1. Nitrogen supplies in 1951 are expected to be fairly adequate. However, difficulties may arise which would result in tight supply of nitrogen.

2. Superphosphate fertilizers may not be adequate to meet all demands as the season progresses, unless additional supplies of sulfuric acid become available.

3. Potash is expected to be reasonably adequate for 1951.

4. If you have suitable dry storage you are urged to place your order for fertilizer and ask for early delivery. Storage facilities at fertilizer plants are generally inadequate to take care of large-scale production during the off-season.

• Insecticides:

1. At best, cotton insecticides for the 1951 crop are expected to be in close balance with requirements. If insects occur in only average abundance the supply of insecticides may be very tight.

2. Newer type insecticides may not be available to meet the demand. This means it may be necessary for you to shift to effective materials other than those first in choice.

3. Prices of insecticides are expected to be higher than in 1950.

4. Difficulty will be experienced in obtaining promptly certain favored insecticides during the active control season.

5. All cotton farmers are urged to place orders and ask for delivery of at least minimum supplies well in advance of the earliest anticipated needs.

Don't be caught short! Order and store fertilizer and insecticides early!

Keep in mind, however, that insecticides are poisonous and that both fertilizer and insecticides deteriorate if not properly stored. See your county agent or agricultural leaders for details on handling and storing, and on using materials efficiently.

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Fertilizing Cotton Pays, Results Show

■ Demonstrations in Texas show applying fertilizer adds $21 to $58 per acre in profits.

When properly used, fertilizer under cotton doesn't cost; it pays. This fact is shown by the results of 1950 cotton fertilizer demonstrations announced by M. K. Thornton, agricultural chemist for the Texas Extension Service.

To emphasize the point, Thornton cites as an example demonstrations conducted last year in Guadalupe County under the supervision of County Agent B. N. Rector. Rector reported that Munroe Schubert of Kingsbury made over one and one-half bales of cotton per acre on part of his fertilizer demonstration.

On a plot that was not fertilized, Schubert obtained a yield of 610 pounds of lint cotton per acre. He obtained a yield of 785 pounds from a plot which was fertilized with 200 pounds of 16-20-0 at planting time and side dressed with 100 pounds of the same fertilizer when the cotton was about knee high. Other plots in the demonstration which received different amounts of fertilizer gave yields that ranged between the high above and the low received when no fertilizer was applied.

Figuring that 16-20-0 fertilizer costs not more than $4 per hundred, the cost of the three sacks of fertilizer applied was $12. The increase of 175 pounds of lint obtained by fertilizing was worth about $70, figuring the price of cotton at 40 cents a pound. Therefore, Schubert's increased income over the cost of fertilizer was about $58.

The lowest increase obtained was 30 pounds of lint from applying 100 pounds of 5-10-5 at planting time. Thornton points out, however, that this gave a return of about $21 on an investment of $2.50 for fertilizer.

Chemists Name Committees For Spring Meeting

Committee appointments for the 1951 spring meeting of the American Oil Chemists' Society, to be held in New Orleans May 1-3 at the Roosevelt Hotel, have been announced by J. A. Kime, Southern Regional Research Laboratory, who will be general chairman.

Committees will be headed by T. H. Hopper as program chairman; W. S. Singleton, registration; C. L. Hoffpauir, publicity; J. J. Ganucheau, annual dinner; F. G. Dollear, golf; A. F. Freeman, hotel reservations; E. A. Gastrock, treasurer; and Mrs. Gastrock, ladies' entertainment.

• Animal manures are ideal for improving garden fertility, according to horticultural experts.

Program Outlined for

Memphis Defoliation Meeting Jan. 11-15

■ **Research workers will report on progress in using chemicals to make cotton plant shed its leaves.**

Research in the use of chemicals to cause the cotton plant to shed its leaves will be reviewed at the fifth annual Belt-wide Cotton Defoliation Conference in Memphis Jan. 11-15, according to the program released this week by the steering committee for the meeting.

The sessions, sponsored by the National Cotton Council, will be limited primarily to individuals associated with various phases of defoliation research. Reports will be heard from agencies cooperating in the regional cotton defoliation project. These include the USDA, extension services, experiment stations, defoliant manufacturers and farm equipment industry.

Dr. W. H. Tharp, principal physiologist, Division of Cotton and Other Fiber Crops and Diseases, USDA, Beltsville, Md., is chairman of the steering committee as well as general chairman of the conference. Other steering committee members are: C. B. Haddon, superintendent, Northeast Louisiana Experiment Station, St. Joseph; Don L. Jones, superintendent, Texas Agricultural Experiment Station, Lubbock; William E. Meek, senior agricultural engineer, cot-

To Our Friends Everywhere

ONCE AGAIN we come to that time of year when we particularly like to think of our friends, wherever they may be, and wish them well for another year. And, somehow, in this jet-propelled era when each season brings newer and gaudier baubles to try to please the jaded senses, there is no greeting, no wish quite so pleasing as the old, familiar phrases we have heard and said many, many times.

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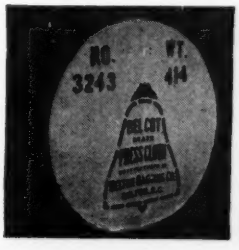

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ton mechanization, Delta Branch Experiment Station, Stoneville, Miss.; I. M. Parrott, superintendent, Oklahoma Cotton Experiment Station, Chickasha; Tildon Easley, agriculturist, American Cyanamid Co., Little Rock, Ark.; and Leonard Lett, agronomist, National Cotton Council, Memphis.

The program is as follows: Thursday, Jan. 11—"The Cotton Situation," Claude L. Welch, director, production and marketing division, National Cotton Council; "Research, Cooperation and Procedures," Dr. Tharp; "Reports of Experimental Results from the Southeast," Harold Loden, Department of Agronomy, University of Georgia, presiding; "Reports of Experimental Results from the Mid-South," Easley presiding.

Thursday afternoon—"Reports of Experimental Results from Texas and Oklahoma," Jones presiding; "Reports of Experimental Results from the Irrigated West," Stanley Strew, agriculturist, Chipman Chemical Co., Palo Alto, Calif., presiding; "The Commercial Viewpoint of Results During 1949," J. T. Massengale, chemist, Sharples Chemicals, Inc., Wyandotte, Mich. Meek will preside over every session on Thursday when conferees will view slides depicting "Machinery and Methods."

Friday's program is as follows: "Defoliation as Related to Quality of Fibers and Seed," Paul B. Marsh, physiologist, Bureau of Plant Industry, Soils and Agricultural Engineering, Plant Industry Station, USDA, Beltsville, Md., presiding; "Why Does the Cotton Plant Behave That Way?" Frank L. Stark, American Cyanamid Co., Stamford, Conn., presiding.

Friday afternoon — panel discussion, steering committee of the Beltwide Cotton Defoliation Conference, Dr. Tharp presiding; revision of regional experiments and services; report of the steering committee; plans for the 1951 report of progress; 1952 conference plans.

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Changes Proposed in U. S. Soybean Standards

Informal public hearings to consider proposals by the American Soybean Association and the National Soybean Processors' Association to decrease one percent the maximum limits for foreign material and moisture content permitted in each of the numerical grades in the official U.S. grain standards for soybeans will be held at Toledo, Chicago, Cedar Rapids, Decatur and Minneapolis in late January and early February by USDA.

Interested persons may also submit written data, views or arguments to the Director, Grain Branch, Production and Marketing Administration, U.S. Department of Agriculture, Washington 25, D. C., not later than Feb. 15.

Times and places of the public hearings to be conducted by Robert H. Black, PMA Grain Branch, are as follows:

Jan. 29, 2:30 p.m., Trading Floor, Produce Exchange Bldg., Toledo, Ohio.

Jan. 30, 2:00 p.m., Room 660, Chicago Board of Trade Bldg., Chicago, Ill.

Jan. 31, 1:30 p.m., Assembly Room, Chamber of Commerce Bldg., Cedar Rapids, Iowa.

Feb. 2, 2:30 p.m., Decatur Club Bldg., Prairie and Church Sts., Decatur, Ill.

Feb. 5, 2:30 p.m., Directors' Room, Minneapolis Grain Exchange Bldg., Minneapolis, Minn.

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Mrs. F. N. Bridgers Dies Of Heart Ailment

Mrs. Sue Fleming Bridgers, 78, wife of Furman N. Bridgers, chairman of the board of directors of Farmers Cotton Oil Company at Wilson, N. C., died Dec. 10 in a Wilson hospital of a heart ailment. She had suffered a series of heart attacks since last summer. Funeral services were held Dec. 11 at the home.

Mrs. Bridgers was well known in the cottonseed oil milling industry. Her husband is a past president of the National Cottonseed Products Association. He is also an honorary member of the NCPA and a member of the Old Guard.

New Co-op Oil Mill At Fresno, Calif.

■ **Will crush seed from three co-op gins in San Joaquin Valley. E. J. Cecil is general manager.**

Announcement was made last week of the formation of a new cooperative oil mill at Fresno, Calif., to be known as Ranchers Cotton Oil, to crush cottonseed and other oilseeds grown in California's San Joaquin Valley. Ranchers Cotton Oil, according to Tilford Cheney, president, has purchased the present plant and facilities of the Oil Seed Products Company at Fresno.

The new cooperative oil mill will crush the seed obtained from three co-op gins: Kaweah Delta Cooperative Gin, Tulare; Central Valley Cooperative Gin, Hanford; and Caruthers Cooperative Gin, Caruthers. Cheney said it is expected other co-op gins in the Valley will ultimately become associated with the new organization.

Oil Seed Products Company was built in 1944 and has operated for the past six years on such products as rice bran, soybeans, flaxseed, safflower, and other oil bearing materials grown in the San Joaquin Valley. It is contemplated that Ranchers Cotton Oil will crush soybeans, safflower, and flaxseed during the period of the year when no cottonseed is available.

The plant is said to be the only one west of the old Cotton Belt using the pre-press solvent extraction system. Sufficient cleaning, delinting, hulling and separating machinery to handle about 200 tons of cottonseed per day has been ordered and the installation of this new machinery together with additional facilities for cottonseed and meal storage, etc., will be begun immediately. The plant will be ready in ample time to handle the seed from next year's crop. When completed the plant will represent an investment in the neighborhood of $750,000.

E. J. Cecil, formerly president of Kingsburg Cotton Oil Co., Kingsburg, Calif., has been named general manager of the concern.

L. L. Touton, who organized the Oil Seed Products Company in 1944 and has been general manager and vice-president of that company since that time, will be assistant manager. He was in charge of the solvent extraction division of the Allis-Chalmers Manufacturing Company, Milwaukee, Wisc., before he went to California. The other officers of Ranchers Cotton Oil are as follows: W. O. Freeman, Caruthers, vice-president; Lyman Griswold, Hanford, secretary; and Clinton Hagler, Tulare, treasurer. The present directors are: Carl C. Gunlund and W. O. Freeman, Caruthers; C. L. Mills and Lyman Griswold, Hanford; and Tilford Cheney and Clinton Hagler, Tulare.

Texas Coop. Ginners Set Meeting for Feb. 5-6

E. M. Cooke, Georgetown, Texas, secretary-treasurer of the Texas Cooperative Ginners' Association, has announced that the 1951 annual convention of that organization will be held Feb. 5-6 at Fort Worth.

The Blackstone Hotel will be headquarters for the meeting, Cooke said.

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THIS BIG ISSUE WILL CONTAIN:

★ USDA Conference Report on Cotton Insect Research and Control.

★ Recommendations of the major cotton-producing states on controlling cotton insects.

★ Articles by our own editors on the economic importance of effectively controlling insects, the results of communitywide cooperation by growers in early stalk destruction, and early-season control.

★ Special articles dealing with the various aspects of insect control, by recognized authorities.

★ Word-and-picture stories pointing up the advantages of applying the right poisons, in the right quantities, at the right time.

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REMEMBER...IT'S THE MARCH 3 ISSUE OF

The Cotton Gin and Oil Mill Press

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Japanese Textile Industry Operating Near Capacity

The Japanese cotton textile industry is nearing peak operation with present capacity. Japan's installed spindles are now being operated full time and the production per spindle has been raised to the prewar level.

The total number of spindles installed in Japanese mills reached 4,146,418 on Oct. 1, of which 99 percent or 4,081,851 were in operation. This compares with 3,686,472 spindles installed on Oct. 1, 1949, of which only 79 percent or 2,870,-158 were operating.

Under this full operation cotton consumption has reached the highest level of the postwar period. In the first three months of the current season (Aug., Sept. and Oct., 1950) consumption was reported at 350,000 bales (480 pounds net), which is at a rate of 1,400,000 bales annually. This compares with 222,000 bales consumed in the first three months of the 1949-50 season or a total consumption of 1,025,000 bales over the year.

Japan's exports of cotton textiles have shown a marked increase in the past year. Shipments abroad of cotton cloth in the first 10 months of the calendar year 1950 reached 890 million square yards, compared to 600 million yards exported over the same period of 1949. Thus it seems assured that cotton cloth exports will reach or exceed the one-billion-yard goal set by the Japanese. This would represent a 35 percent increase over 746 million yards exported in 1949 and nearly two and one-half times the 422 million yards exported in 1948. Cotton textile exports, however, are still far below the average of 2.5 million yards reported annually in the five prewar years 1934-38.

However, these large exports have been maintained largely at the expense of the domestic market. Goods available to the domestic market are hardly a third of the 9.2 pounds per capita consumed in the 1934-38 period.

Egypt's Cotton Exports Drop Sharply

Exports of cotton from Egypt amounted to only 14,000 bales (of 500 pounds gross) in Sept. 1950 following an exceptionally large total of 256,000 bales exported in August. Preliminary figures for October indicate that the total for that month probably did not exceed 65,000 bales.

The acceleration of exports in August and the sharp reduction in September were both influenced by the increase of the export tax on Sept. 1 to 5.91 cents a pound from 2.96 cents theretofore. Depletion of stocks (new-crop harvest begins in September) and the advance of prices following the announcement of cotton export restrictions in the U.S. are believed also to have contributed to the lower rate of Egyptian exports in September and October.

The Aug.-Sept. 1950 total of 270,000 bales is more than double the 128,000 total for the corresponding two months in 1949 despite the sharp drop in exports after the end of August. Most of the increase was accounted for by the U.S., Italy, Yugoslavia, Chile and Spain. Sales for export to the United Kingdom, India, France and the Soviet Union, normally the largest markets for Egyptian cotton, were exceptionally small prior to the middle of October.

ED. M. BAYLISS, Jr.
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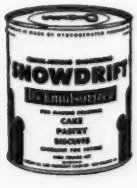

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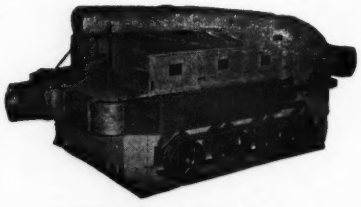

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Laugh It Off

Young Tolliver was looking for Grandpa, who had wandered off into the woods and failed to return for supper. The lad found him standing in some bushes.

"Suppertime, Grandpa," the tot ventured.

"Yep."

"Ain't ye hungry?"

"Yep."

"Wal, air ye comin' home?"

"Nope."

"Why ain't ye?"

"Can't!"

"Why can't ye?"

"Standin' in a b'ar trap."

• • •

A minister advertised for a handy man and the next morning a neat young man rang the bell.

Minister: "Can you start the fire and have breakfast ready by 7 a.m.?"

Young man: "I think I can."

Minister: "Can you polish all the silver, wash the dishes, and keep the house tidy?"

Young Man: "I guess so."

Minister: "Can you mow the lawn, fix the plumbing and see that everything is shipshape?"

Young Man: "Look, Reverend. I came here to see about getting married, but if it's going to be anything like that, you can count me out right now."

• • •

Wife: "Oh, John, the woman next door has a hat exactly like my new one."

Hubby: "And I suppose you want me to buy you another?"

Wife: "Well, it would be cheaper than moving."

• • •

Two revellers in a bar were discussing life.

"I had the funniest dream last night," said one. "I dreamed that suddenly about a thousand little men were dancing on top of my body. They had pink caps and green suits and funny red boots that curled up in the front."

"Yes," agreed the other, "and there was a tinkly little bell at the toe of each of the boots."

"How do you know that?" said the first reveller in surprise.

"There are a couple of them still sitting on your shoulder," said the other.

• • •

Tall Blonde: "I want a pair of red, open-toe shoes with low heels."

Shoe Salesman: "To go with what?"

Tall Blonde: "A short office manager."

• • •

At last Joe hit the jack pot—he bet on three horses and they all come in.

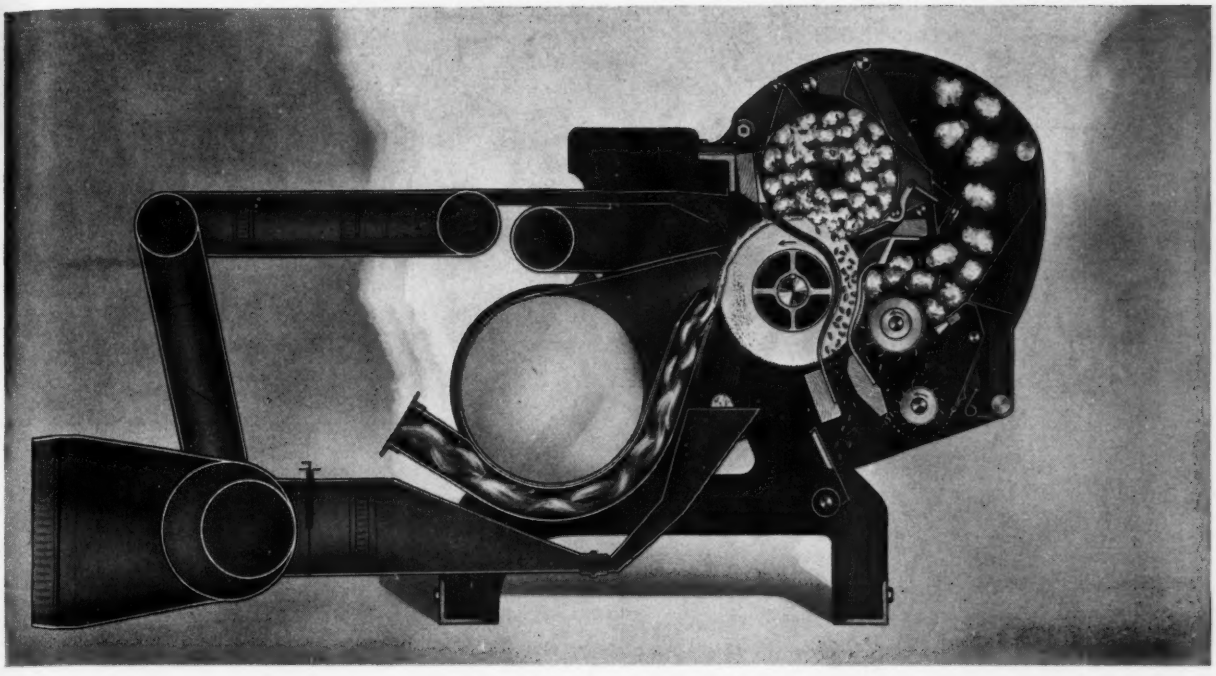
Bubbling over with enthusiasm, he rushed home, flung a large wad of bills on the table in front of his wife and exclaimed: "Now, dear, at least you'll be able to buy some decent clothes."

Wife: "I'll do nothing of the kind. I'll get the same kind the other women are wearing."

• • •

Mother: "That brazen Miss Vamp boasts that she has been kissed by every married man in town except one!"

Father (absently): "I wonder who he can be."



Dynamic-Pneumatic Dual Moting and Lint Cleaning

GULLETT GIN

Into a new gin Gullett has added the application of high velocity air to the gin saw to remove motes, grass and extraneous matter during the ginning process.

The application—the system—is simple, trouble free, inexpensive to install and does not require an additional operator.

The new system in no way slows down the high capacity of this new gin on any type of cotton. Results are amazing and outstanding. The ginners who have operated this new gin, and those ginners, buyers and classers who have watched it in operation quickly realized that the actual cleaning of the lint and grade improvement is truly remarkable, and that the results had been accomplished without roughness in the sample and without the loss of lint.

☆

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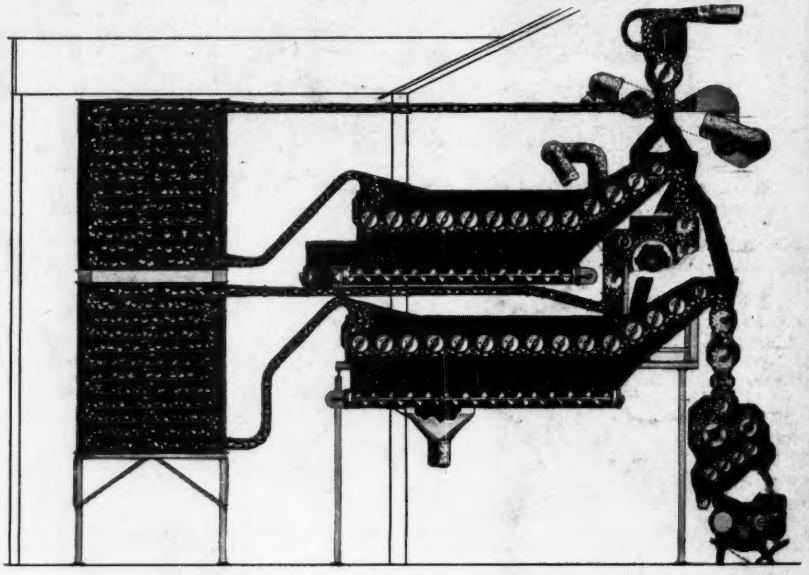

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